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Sixty-Fifth Year.

Southern Planter

A MONTHLY JOURNAL

DEVOTED TO

**Practical and Progressive Agriculture, Horticulture,
Trucking, Live Stock and the Fireside.**

OFFICE: 28 NORTH NINTH STREET, RICHMOND, VIRGINIA.

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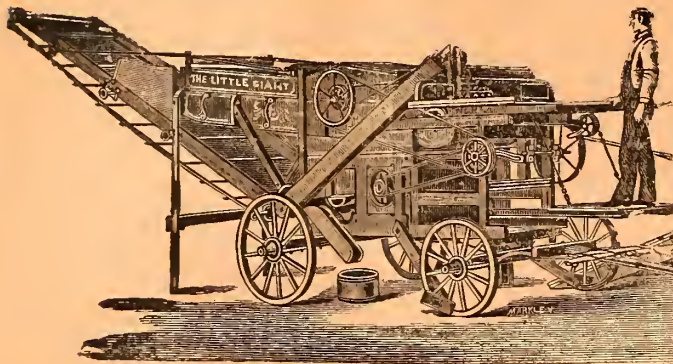
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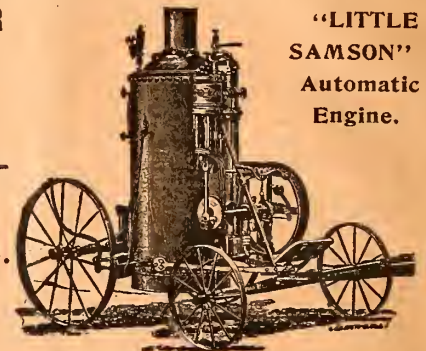
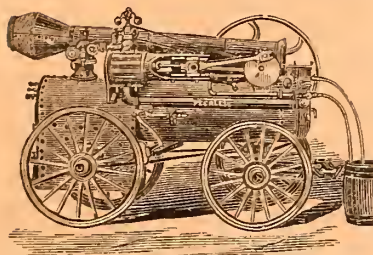
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Agriculture is the nursing mother of the Arts.--XENOPHON.
Tillage and pasturage are the two breasts of the State.--SULLY.

65th Year.

Richmond, July, 1904.

No. 7.

Farm Management.

WORK FOR THE MONTH.

In accordance with what has been our practise for many years we open this issue with a review of the progress and condition of the crops at this time. The abnormal weather which has been characteristic of the present year has greatly interfered with crop prospects throughout the country. The winter not only in the South but over the whole country was a long and trying one and the spring has been equally as ungenial. In the South Atlantic States for the past six months there has been a great deficiency in rainfall, many parts of these States not having had 50 per cent. of the average precipitation, whilst in the most favored sections not more than 75 per cent. has fallen. Accompanying this deficiency in moisture there has been also a deficiency in temperature in most of the States. Whilst this deficiency is in the aggregate not large since the crop growing season commenced it has yet been of an unusually trying character on crops. Cold, harsh, dry winds from the north northeast and northwest have prevented crop growth and the warming of the land. As a consequence of these abnormal conditions Winter wheat over the whole country is more or less of a failure. Over 5,000,000 acres of the seeded crop has been plowed up or abandoned and as the area seeded was not in excess of that harvested last year there is a serious deficiency in acreage and this is accompanied by a serious deficiency in condition of that standing. The average condition throughout the country on June 1st was 77.7 as compared with 82.2 a year ago and a ten year average of 79.8. This lowered condi-

tion taken in conjunction with the reduced acreage would indicate a decrease in total production as compared with last year of over 100,000,000 bushels. In the spring wheat sections the area seeded is somewhat less than the area harvested last year and the condition is 93 as compared with 95 a year ago. This would indicate a decreased production of spring wheat and the whole wheat crop of the country is therefore likely to be considerably less than the average. This taken in conjunction with unfavorable reports as to the condition of the crop in England and the continent of Europe leads us to the conclusion that wheat is likely to be higher in price through the fall and winter and that farmers need not be in a hurry to market their crops. If there should be unfavorable weather for harvesting the crop we look to see a substantial rise in the price. In any event it will not in our opinion be likely to sell for less money than the present quotation.

The oat crop is about the average in acreage and is in average condition. In the South the Winter Oat crop is largely a failure and Spring Oats are not promising except in some sections of the mountains. Much of the crop will be cut for hay.

Corn planting has been so much delayed by the cold dry weather that it is difficult as yet to say anything with definiteness as to the outlook. We hear much complaint as to poor stands and slow growth and are afraid that the prospect for a big crop is not of the best. Of course there is still time for much

change in this crop and with warm showery weather for a week or two it may not fail to make an average yield. Still when corn fails to grow right off from the start we have always misgiving as to the outcome.

The cotton crop promises to be a large one as the area planted is nearly 3,000,000 acres in excess of that planted a year ago. The condition is nearly up to the 10 year average. In some of the Texas counties the Boll weevil is again doing much damage. There appears, however, a prospect of circumventing this pest. The officials of the Department of Agriculture who are looking for a remedy have come across an ant in Central America which in that country wages war on the weevils and cleans them out quickly. This ant is to be introduced into Texas and it is to be hoped will in future years save the cotton crop. This year the only hope is in the early maturity of the crop. Late maturing cotton is that which suffers most and to meet this planters have largely used earlier maturing varieties.

Tobacco is late starting as plants were small and scarce generally. In the dark shipping section there is a considerable reduction in the area planted—possibly 20 per cent. and this also is the case in part of the bright section in Southern Virginia and North Carolina where cotton is taking the place of tobacco. In the sun cured section the crop planted is in excess of the average but is late.

The hay crop is not promising to be a heavy one generally, the cold dry weather having checked growth materially. Forage crops have been more generally planted than in the past though the scarcity of Cow pea seed has no doubt considerably curtailed the area that would have been planted in this crop. Sorghum has largely taken the place of the peas and Soy beans have been used in many places where they have not before been tried. We trust that growers of the crop will not be discouraged if it does not make a heavy growth the first year tried as until the soil becomes thoroughly infected with the specific microbe of the plant it is not apt to do itself justice. It should be grown two or three times in succession on the same land and will then, we are satisfied, prove that it is a valuable addition to our forage crops.

From the foregoing it will be seen that we do not anticipate more than a bare average crop year from crops already planted. There is, however, yet time

to improve this outlook by planting crops to increase the yield of stock food and there is every encouragement to do this as there is an excellent demand on the markets for beef, mutton and hog products. All these have advanced materially in value within the past 30 days and beef is now selling at wholesale higher than at any time since the war. It is useless for us to advise the planting of Cow peas as they are practically unobtainable, but Millet, Sorghum and Corn for the silo and for a forage crop can yet be sowed and planted and will make good any deficiency in the hay and fodder crops. Either the German or Hungarian Millet should be sown. For low grounds the Hungarian is the best, for high lands sow German. Prepare the land well making a fine seed bed and sow at the rate of one bushel to the acre. Harrow in lightly and roll if the land is dry enough. Many of our subscribers are seeding Crimson clover with Millet at this season of the year. The Millet shades the clover and often prevents it from being destroyed by the sun. After the Millet is cut for hay the Crimson clover makes its growth and covers the land all winter. Millet should be cut for hay when or just before it comes into bloom. It does not then make a strong draft on the land and the hay is safe to feed to stock of all kinds. If seed is allowed to form the hay is not safe to feed to horses continuously. In our last issue we wrote at length on Sorghum as a forage crop and refer our readers thereto.

The cultivation of the Corn, Tobacco and Cotton crops should have close attention so that the crops may be encouraged to make rapid growth. Cultivate shallow and frequently and keep the soil level. When it is not possible to run the cultivator through the crop without breaking the plants then it is time to cease cultivating but not until then. Before the last working sow Cow peas (if you have them), Crimson clover or Sapling clover in the corn and cotton fields and cover with the cultivator. These will make fall and winter grazing and will help the land materially by conserving the fertility not called for by the main crop. At this season of the year nitrification is very active in the soil and the growing of the leguminous crops conserves this nitrogen and adds largely to it.

After the wheat and oat crops have been cut, if grass or clover was not seeded in them, break the stubble with a disc harrow or cultivator and sow a mixture of Crimson clover, oats, wheat and rye broadcast, say 10 pounds of Crimson clover and three quarters of a bushel of the mixed grain. A couple of pounds

of rape seed may also be added to the mixture with advantage or Hairy vetch may be substituted for the Crimson clover. This mixed seeding will make good fall and winter grazing and will be far better for the land than growing a crop of weeds which only serve to deplete fertility and make work for another year.

Where clover or grass was seeded with the wheat or oats see that the stand is not lost by allowing the weeds to grow up and run to seed after the grain is cut. We have seen many a fine stand of clover and grass lost in a few weeks after harvest by the weeds growing up and taking all the moisture and fertility out of the soil. Run the mower over the fields as soon as the weeds begin to shoot up and repeat the work as needed. The cuttings will mulch the clover and help it.

Dwarf Essex rape may be seeded this month and in August for fall and winter pasture for sheep, hogs and young cattle. It may be sown either broadcast or in drills. It makes the best crop sown in drills 2 feet 6 inches apart and thin in the drills. About 2 or 3 pounds of seed will sow an acre in drill whilst 4 or 5 pounds will be needed if sown broadcast. As a green feed for hogs and sheep it is most valuable and can be grazed until winter and will then spring up again in spring unless the winter be a very severe one.

Prepare the land for Rutabagas and turnips. Break the land deeply and make it fine by repeated harrowing and rolling. The land should be made rich if a heavy crop is to be grown. Farm yard manure and acid phosphate and potash are suitable manures for these crops and should be applied liberally—500 or 600 pounds of acid phosphate to the acre is none too much to apply. They make the best yield sown in drills 2 feet 6 inches apart and the plants should be thinned out with the hoe to stand 10 inches apart in the rows. Sown in drills two pounds of seed per acre is sufficient. Sown broadcast will require four pounds. Rutabagas should be sown this month, turnips may be sown in August. All who keep cattle, sheep and hogs should grow these root crops. They provide succulent feed to be fed to the stock in winter and will enable young cattle to be carried through winter in a constantly improving condition on fodder or straw. For sheep keepers they are almost indispensable if the best results are to be attained.

If you have not a silo on the farm now is the time to build one ready to hold the forage crops as they are cut. In our last issue an article on "Forage Crops for Fodder and Silage" showed how much more feeding value could be obtained out of corn fodder and sorghum by preserving these crops in the silo rather than as dry fodder. A silo is the cheapest barn a farmer can build, and enables him to save his crop in the cheapest and easiest way and irrespective of the weather. Here in the South the building of a silo is a simple matter, as no precautions are necessary to exclude frost. All that is needed is to make a tight receptacle for the crop. This may be either in the form of a big tank or tub, or it may be built like a frame building. Tub silos are in use on many farms in the South, and are a perfect success. We have given full descriptions of the method of building both the tub and frame silos several times in THE PLANTER. In our issue of July, 1903, will be found full instructions. The great point to be observed is to build with the greatest depth possible, so that the natural weight of the silage will compress the contents solidly and drive out and exclude the air. To arrive at the size of silo required estimate the consumption of silage at 40 pounds per head of cattle to be fed per day. Multiply this by the number of days required to be fed, and you have the quantity of pounds for which storage is required. A cubic foot of silage will weigh on the average 40 pounds, so that each animal will consume a cubic foot of the feed per day. The silo must be large enough to hold this quantity when settled, and to provide for the settling add one-fourth to the number of cubic feet of silage called for. A round silo is the most economical, as the settling is most perfect, there being no corners to hold the feed and let it spoil.

ESTIMATES FOR SILOS.

Estimated size of silo needed, and number of acres required for a given number of cows, for a feeding season of 180 days:

No. Cows.	Estimated Consumption of Silage. Tons	Size of Silo Needed. Diam. Ht.	Average Acres Corn Needed.
6	20	9x20	1 to 2
9	30	10x22	2 to 3
13	45	11x25	3 to 4
21	74	13x29	5 to 6
25	90	14x30	6 to 7

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ALFALFA.

For several years we have been pressing on the attention of Southern farmers the importance of alfalfa as a crop for production in the South. Until within the past two or three years our efforts seem to have been rewarded with but little success. As with alfalfa so with the grasses and clovers, it has been difficult to convince Southern planters that there was anything in these crops worthy of their attention. And yet if they will give heed to what has been the result of growing alfalfa in the West, they will realize that it has been worth more to the farmers of that section than all the wheat and corn raised there, for it has not only directly brought them money by enabling them to feed large herds of cattle, sheep and hogs to be sold at profitable prices, but it has enabled them to maintain and increase the fertility of their lands, and thus permit of the continued production of large crops of corn and wheat. It has also directly brought them thousands of dollars as a sale crop for the feeding of horses in the large cities. What it has done for the farmers of the West it is already also doing for many farmers in one of the Southern States. In Louisiana one of these farmers, Mr. Foster, who has 400 acres planted, says:

It seems to me that this queen of all hay and forage plants is too little understood, otherwise there would not be a ton of hay shipped into Louisiana. On the contrary, there would be thousands of tons shipped out of the State at a better profit than is made on cotton, even at present high prices. I am not chemist or botanist enough to say on what lands in the State it will grow profitably, but believe that with proper expenditure of time in preparation, manuring and nursing it can be made to grow anywhere in the State. I have seen it growing luxuriously on the poor and worn hill land of the Experiment Station in North Louisiana, but much time and expense was required. On the river lands between Baton Rouge and New Orleans it seems to thrive well, and on the Red river it seems to be perfectly at home. I may say that I use it as a profit crop on our low, stiff, red lands that will not produce profitably any other crop. Its value as a feed for horses, mules, cows and hogs is unequalled by any other food. Hogs will make splendid growth on it and fatten readily without any other feed, and that, too, with twenty or twenty-five to the acre, where it grows well. Again, it is a fine fertilizer crop. Your land is improving each year it grows on it, and when you wish to get rid of it (which will be never unless you want to plant it somewhere else), it is as easily killed as oats or corn. * * * I am free to say that if alfalfa hay is worth as many dollars per ton as cotton is worth cents per pounds, I would prefer to raise the alfalfa.

On our soils, with ordinary seasons for growing and harvesting, we get three to five cuttings, averaging from one-half to a ton of cured hay per cutting, and bringing in our market at Shreveport from \$8 to \$15 per ton. The cost of handling varies, of course, with the seasons. It costs just as much to cut and rake one-half ton per acre as it does to cut and rake a ton per acre. From my experience, and my alfalfa account, it costs an average of \$1.25 to \$2 per ton to put in shape for the market. An intelligent negro near our plantation, who works twenty mules raising cotton, told me he had sold \$500 worth of surplus hay per year off twenty acres. For the last two years off sixty acres he has sold enough to very nearly make his cotton crop clear. I think a very conservative estimate would be \$15 to \$30 per acre net per year, not counting the pasturage in fall, winter and spring. My advice to every one who works land would be to plant a small patch of alfalfa for trial. If he succeeded with it he would have the most valuable crop that grows; if he failed it would be the most laudable failure he ever made. In 1900 my overseer made with wage hands 253 bales of cotton, costing in money outlay \$4,500 and bringing on the market \$10,575. In 1901 the same man with the same labor, on poorer land, harvested 1,100 tons of alfalfa, selling in car load lots for \$15 per ton, or a total valuation of \$16,500, with a money outlay for labor and machinery repairs of \$1,500. In one case it required about 45 per cent. of the gross value of the cotton to get it ready for the market; in the other it required only 10 per cent. of the gross value of the alfalfa to put it on the market.

What this and other Louisiana farmers are doing some few of our farmers in this State and North and South Carolina are also doing. Alfalfa grows just as freely in the Eastern, Middle and Piedmont sections of these States as in Louisiana or the West when the proper means are taken to secure a stand. It will also grow in the mountain sections of the West of these States in the valleys, and where the elevation is not too great and too exposed, but in those sections should be seeded in spring and not in the fall, as is best in the Middle and Eastern sections. We import into this State thousands of tons of hay every year from the West, and this also is the case in the other South Atlantic States. Every ton of this hay can be grown at home, and of a much finer quality than that bought from the West, if only our farmers will sow alfalfa. There are, however, certain conditions which must be observed in growing the crop if success is to be achieved, and it is with the object of stating these that we write this article. Alfalfa thrives best in a warm, friable soil with a porous subsoil, into which its long tap roots can read-

ily penetrate. More than any other plant, it depends on a subterraneous supply of water rather than on a surface supply. To reach this the roots have been known to go down 20 or 30 feet. The land must be in a good state of fertility and free from weeds. Alfalfa will not grow in poor land nor will it fight successfully a battle with weeds. Although it makes a wonderful growth of feed every year after it is well established on the land, often producing four or five crops in the year of from one and one-half to two tons of hay to the acre at each cutting, yet it makes but a slender growth the first year, except on very rich land, and weeds easily overcome it at that time and smother it out. The land must be finely broken and well prepared, and should have a dressing of from 20 to 25 bushels of lime to the acre applied previous to seeding the crop, and this should be well worked into the soil. If the land is not in good fertility it should have a dressing of 400 or 500 pounds to the acre of bone meal or acid phosphate or have a good coating of well rotted farmyard manure free from weed seeds applied, and these be well worked into the soil. The next and most important condition is that the soil should be inoculated with the specific bacteria of the alfalfa plant. Without this there can be no certainty of a permanent stand. The seed may germinate and grow for a time, but until the soil is fully infected with the bacteria no success can be relied on. This specific bacteria can be got in several ways. It can be had from the Department of Agriculture at Washington, or, better still, can be supplied in larger quantity by the sprinkling of 100 pounds to the acre of soil from a field upon which alfalfa is already growing luxuriantly. There are a number of parties advertising this soil for sale, and if there be no alfalfa field in your section it will be advisable to secure the soil from them. If you reside in a section where the *Mellilotus Alba* (commonly called Sweet Clover) grows, and this is found more or less all over the South, soil from around where this plant is growing will infect the soil with the proper bacteria for the alfalfa, and Professor Kilgore, of the North Carolina Experiment Station, says that he finds that soil from a Bur clover field will also give the proper infection. In whichever way is most convenient to you, secure the bacteria and apply it to the field before sowing the alfalfa seed. Sow the alfalfa seed in August or the first half of September, at the rate of 20 to 25 pounds to the acre broadcast, harrow in lightly and roll if the land is dry, following the roller again with a weeder or light harrow to break the surface compact-

ness and make a soil mulch to conserve the moisture. A good place to experiment in growing alfalfa is a cow pea field with a heavy crop of peas on it, which have smothered down the weeds. Cut the peas for hay. Spread 25 bushels of lime per acre on the stubble, and then break shallow, not going over three inches deep, with a disc harrow or cultivator. This will not bring to the surface fresh weed seeds to smother the crop. Sow the alfalfa seed and roll and harrow as above directed. When the alfalfa has made a growth of six or eight inches run over it with the mowing machine, just clipping off about half the growth and leave the cutting for a mulch. This may be repeated again if the growth becomes sufficiently tall before the middle of October. This clipping causes the plant to tiller out and cover the ground more completely, and thus protects the roots during the winter. This clipping of the crop should be continued through the first summer's growth, though if a good and thick stand be obtained before the first winter the crop may be allowed to grow a foot or fifteen inches tall in the spring before cutting, and this and the later cuttings should be cured into hay and be removed from the field. After the first year cut the crop for hay every time it gets fifteen or eighteen inches high, just when coming into bloom, and take care to give it a good, heavy dressing of acid phosphate or bone meal, 400 or 500 pounds to the acre, each year in the fall or early spring. So treated the stand should last for ten or fifteen years at least, giving from five to ten tons of hay each year per acre. In this issue we publish communications from a number of our readers, giving their experience with this crop.

CRIMSON CLOVER.

Although Crimson clover (often called German clover and in some sections in this country and in Europe *Trifolium*) has been grown successfully here in some sections for many years, yet it is a crop that has not yet had half the attention given to it that it deserves. In all sections of this country land left bare at any season of the year is apt to lose much fertility by the washing out of plant food accumulated in the soil, and especially is this true of land in the warmer sections like the South. Whilst crops are growing on the land they appropriate and conserve this fertility, and in sections too cold for winter growth of crops the covering of the ground with snow and the freezing of the land serve to retain this unused plant food. In the South climatic conditions are

such that we can rarely expect to have the land either hard frozen or covered with snow for more than a very brief period, if at all, in any year. Science and sound policy therefore require that we shall avail ourselves of some crop to cover the soil during the winter season. In selecting the crop to be used for this purpose it is the part of wisdom to choose one, if such be available, that will not only conserve the plant food in the soil, but which will in its growth add to the fertility of the soil and make it better fitted for the production of the next crop. If in addition to this we can grow a crop which will give some winter and spring grazing and make a good early forage and hay crop we ought to do so. In the South we can do this with several crops which show themselves admirably adapted to our climatic conditions. Crimson clover, Hairy Vetch and English Vetch all meet the requirements specified, and amongst these Crimson clover perhaps more fully meets all the requirements than any other in that it makes better winter and spring grazing than the others and a better sod to turn under for the feeding of the following crops. Whilst it does not gather from the atmosphere and fix in the soil quite as large a quantity of nitrogen as the Hairy Vetch, it is more certain to make a growth on all our lands than the Vetch at the first sowing, as nearly all our land is already inoculated with the clover microbe, whilst much of it requires to be inoculated with the Vetch microbe before it will make the best yield of this crop. A good crop of Crimson clover will gather and store in its roots, stubble and forage about 150 pounds of nitrogen per acre, all or nearly all taken from the atmosphere. At a low valuation, this nitrogen is worth at least \$20 simply as a manure. This quantity of nitrogen is more than is called for by a 75 bushel to the acre crop of corn. As a preparation for the corn crop this crop is therefore of great value, as it enables the farmer to grow the crop without any outlay for nitrogenous fertilizers. In the same way it admirably prepares the land for an Irish potato crop, which almost invariably does well on a clover sod. The only drawback which affects the Crimson clover crop is that it is rather uncertain in making a stand. This arises from the fact that it is very quick of germination, and when first sprouted is easily killed by the hot sun. This difficulty may be largely obviated by seeding the clover in a growing crop, say of corn or cotton, which will shade it or by seeding with a mixture of wheat, oats and rye, which will serve the same purpose. In all cases we would advise the seeding of some small grain with Crimson clover, as this adds

to the value of the winter grazing, and to the weight of the hay crop and ensures a certainty of a crop on the ground if the winter should be so severe as to freeze out the clover, or it should happen to be killed in the late summer or early fall by the hot sun or a drouth. This month of July is the time to commence sowing Crimson clover and the work may be continued at intervals as the land becomes available until the end of September, or even the middle of October. If sown alone seed 15 pounds to the acre. If sown with small grain, sow 10 or 12 pounds of the clover seed with half or three-quarters of a bushel of wheat, winter oats and rye mixed in equal parts. Do not plow the land where it was deeply broken for the previous crop but break the surface with a disc harrow or cultivator, and cover with the cultivator or a harrow. If the land is dry roll after covering the seed.

CULTIVATION AS A FERTILIZER.

Editor Southern Planter:

The spring of 1903 I ploughed a field of five and one-half acres, intending to set the entire piece in tomatoes, but owing to the scarcity of plants I only put out four acres, leaving one and one-half acres, which grew up in crab grass. I marked off the whole piece, 4x4 feet, and applied a 2-8-2 fertilizer in the cross, at the rate of 400 pounds to the acre. After the tomatoes were sold I fallowed the whole five and one-half acres, after mowing and removing the crab grass from the one and one-half acres. I disced the whole piece three times and ran a smoothing board over it, and then sowed it in wheat, using 500 pounds of a 2-8-2 fertilizer per acre. There was no apparent difference in the fertility of the entire piece, and the same amount of fertilizer was applied all over. At this writing, June 10th, the wheat on the one and one-half acres will hardly be worth cutting, while the wheat on the four acres is up to the average. Now, what makes the difference in the wheat crop? Is it due to raising tomatoes as a helpful crop to the land, or crab grass as a robber of the soil, or did the thorough preparation and working of the land in tomatoes have anything to do with it?

Richmond Co., Va.

M. C. LEWIS.

As neither tomatoes nor crab grass are recuperative crops, but both, and especially the tomatoes, are crops which require and take from the soil considerable plant food, the only explanation of the difference in the condition of the wheat crop on the two plots must be referable to the working of the land. The difference forcibly illustrates the point we have so often made that one of the things our Southern lands

most need to make them profitable in production is better and deeper cultivation. "Tillage is manure," as old Jethro Tull so loudly proclaimed in the beginning of the era of modern farming. The constant stirring of the land during the working of the tomato crop aerated it and allowed the benign influence of the sun and the moisture of the atmosphere to permeate the soil and make available for the wheat the plant food existing therein in an inert condition. The plot in crab grass lacked this, and hence the plant food was and is still largely unavailable for the wheat. Numbers of experiments have been made in various sections which illustrate the value of cultivation in making available inert fertility. Prof. Hunnicutt once selected one acre in a 20 acre field, an average spot, and plowed and harrowed this acre fourteen times right along before quitting. He then planted and cultivated this acre just as he did the rest of the field, running the rows right along through it. The yield of the extra worked acre was much more than double any other acre in the field. This continued to be true with every crop grown on it for five years afterwards. All through the growing season this acre could be distinguished as far as you could see the field. In an experiment made in Georgia a piece of land that was planted in cabbages, which were got in in a hurry on a piece of land in bad physical condition ran together and became tough during the wet weather that followed. Fertilizer at the rate of a ton to the acre was applied, but the cabbages did not thrive, although frequently cultivated. The 15th of July saw the last of the cabbages cut, and the land was then deeply plowed with a two-horse plow. The weather was dry and the field turned up cloddy. Without allowing the clods to become dry the cutaway harrow was put in the field and the clods were worked down, following with the smoothing harrow and roller. The following week the field was cut up again, harrowed and rolled down as before. The next week the land was plowed again, after which it was again harrowed and rolled. The fourth week the cutaway harrow was put on it for the last time, and when finished the field was like an ash bank. Rows were laid off two feet apart and stable manure applied in the drill to all the rows, with the exception of ten rows, which had no manure or fertilizer. The field was then planted in snap beans. It was wonderful the way the beans grew. The weather was dry, but they did not suffer. They just outgrew anything on the place—producing over 200 bushels of snap beans per acre. The strangest part of the experiment, however, was that the ten rows which received

no manure could not be distinguished from the rest of the field, they produced equally as large a crop, showing that the plants had all the plant food they required. The cultivation of the land had made the inert plant food available to the extent required by the crop, and the manure applied to the rest of the field was thus proved to have been unneeded. On an adjoining field, which did not receive any extra tillage, the portion manured was three times as large as the part left unmanured, and produced three times as many beans per row as the part left unmanured. This clearly demonstrates that the factor dominating the production was the cultivation and not the manure. In an experiment made in New Hampshire certain corn plats were given no cultivation, other plats were cultivated five times, and other fourteen times. On the plats not cultivated the yield was 17 bushels to the acre, whilst the plats cultivated fourteen times yielded at the rate of 80 bushels to the acre. In New York State Irish potatoes have been grown five years in succession with no aid given but frequent cultivation of the land and the turning down of vegetable matter grown on the land in the fall and early spring, and have made a successful yield each year. We think the foregoing experiments will satisfy our correspondent that not the crop grown on the land, but the way in which the land was treated, causes the difference in the appearance and prospect of his wheat crop.—Ed.

ALFALFA IN THE SOUTH AND MIDDLE STATES.

In response to our request for reports on experiments in alfalfa growing in the South we have received the following:

Alfalfa in Dinwiddie County, Va.

Editor Southern Planter:

Responding to your request in the June issue, I would say that we have now about four acres in alfalfa, sowing about one acre each year. The first was sowed in 1900, in the spring. We cut it every time it was about ten inches high. It was very discouraging the first year, it looked yellow and spindling. When we sowed it we put 300 pounds of acid phosphate on the land; the next spring we applied 300 pounds of lime per acre, and in the winter top dressed and sprinkled with liquid manure, and still the next year it did not do much, but the following year we cut it every four or five weeks and had a heavy growth. This was in 1902. After this we got our courage up and sowed another plat in the

early fall (1902). From this we had the first cutting June 4th, this year. The third plot we sowed last fall in the same way, with phosphate, and limed it this spring. At this date it looks poor, but we anticipate for next year a fair return after cutting it, when it grows 10 or 12 inches. We intend to persevere on these lines until we find a better method.

Dinwiddie Co., Va.

J. H. WERRES.

Alfalfa in Lawrence County, Ky.

Editor Southern Planter:

There has never been any alfalfa sown in this section to amount to anything, except twelve acres that I sowed on April 12th last on a piece of medium sandy loam, a portion of it slightly rolling, but most level land. The ground was plowed last November; disced thoroughly on April 1st, harrowed with a straight tooth harrow on April 10th, and the seed sown on the 12th and rolled in lightly.

I send you a sample of a few of the best stalks, with roots attached; also a couple of stalks of red clover sown in a field beside the alfalfa, for comparison. The alfalfa will average 15 inches in height, and is growing at least one-half inch per day; the seed was treated with the United States Department of Agriculture's inoculating material, and 25 pounds of nitrate of soda per acre sown with the seed.

Why is August and September sowing preferable to April? I cannot imagine how any better growth than this can be obtained. Please give me some advice with reference to its treatment from this time on. When shall I mow it, if at all, this year?

JAY H. NORTHUP.

The sample is a fine one for so recent a seeding. The crop should be cut at once, and the cutting be repeated two or three times during the summer. This repeated cutting causes the plants to tiller and cover the land with a thick sod. Fall seeding of all grasses and clover is advisable in the South except in mountain sections. A better root growth is secured.—ED.

Alfalfa in Indiana.

Editor Southern Planter:

Thinking that perhaps your readers might be interested in raising alfalfa and pure blooded cattle, I have concluded to send you a short article, giving my experience with alfalfa and recorded Herefords.

About nine years ago I bought two recorded Hereford heifer calves; and my neighbors made fun of me for paying \$50 apiece for them. I now have about fifty head of recorded Herefords, and have sold calves to several in Michigan, Minnesota, Wisconsin,

Kentucky, North Dakota, etc., and the buyers have invariably written for more cattle. I have sold cattle here in my own county, too, and now we have ten Hereford breeders in Boone county alone. Good cattle eat no more than "scrubs," and they bring more per pound, and weigh more. I want to tell you how I keep the 50 head of cattle on 100 acres of land.

About eight years ago I sowed one and a half acres in alfalfa on ground on which wheat had winter killed. I sowed a little red clover also, thinking I could make hay of the red clover if the alfalfa failed. The alfalfa did very little good for two or three years, or until the little red clover was all gone. I did not inoculate the land for alfalfa, and it takes alfalfa two or three years to inoculate itself. If I had not sown the red clover I am satisfied I would have plowed the alfalfa up, like nine-tenths of the farmers do who do not inoculate it. As it was, by the time the red clover was gone the alfalfa began to do pretty well, and I let it stand. This old patch is fine now, and I have been cutting four crops of hay each year from it for several years. The first crop last year made about two tons of nice hay per acre. The year after sowing the first piece I sowed three acres in alfalfa and red clover on upturned blue grass sod that I had had harrowed thoroughly. This proved a great discovery for me. The blue grass came right up with the alfalfa, and I have fine blue grass and alfalfa both on the same ground at the same time. Alfalfa roots so deeply (ten feet or more), and blue grass feeds on the surface, so one does not bother the other. Both require to be cut early for hay—say, last of May or first of June, and both make good hay if cut before they ripen; and nothing that I have ever tried equals this mixture for pasture. I have this spring sowed eight acres more in alfalfa on fine blue grass sod, and the alfalfa is coming up now, although only sowed five days ago. Two years ago I sowed about 20 acres of alfalfa in corn just before the last cultivation, plowing it in shallow. I got a fine stand and cut a nice crop of hay in eleven months. Just about the time the second crop ought to have been ready to cut I noticed that the alfalfa was turning yellow, and that the leaves were spotted, and were falling badly. I thought I was going to loose my alfalfa; so I cut it again as soon as possible, although it was only about a foot high. As soon as I could get it in to shock I took several wagon loads of soil from my oldest alfalfa patch and scattered it here and there over this field. The result was wonderful. In a few days the alfalfa changed to a deep green color, and I got two

more cuttings of nice hay the first year. This proved to me that inoculation is necessary for prompt success with alfalfa. A friend of mine, at my suggestion, sowed about seven acres in alfalfa in corn in June in 1902, and he got as fine a stand as I ever saw. He cut it four times last year for hay, and was well pleased with it in every way, except that it turned yellow from some cause last fall. He did not inoculate it. This spring he has not more than half a stand, and his disced and resowed part of it. People made fun of me again for sowing alfalfa, and especially so when they saw me scattering a few handfuls of earth per square rod over the field. They said: "Alfalfa would do in the West, but that it was not adapted to this climate." When I began to ship soil to others to inoculate with they thought me stranger than ever. Last week one man came to us while we were packing soil in barrels for shipment and asked: "What are you doing?" I told him, and he said: "Aren't there lots of d— fools?" I said: "Yes, and plenty of them close around here." He said no more, but went off. I have shipped soil all over the Eastern and Central States, to New York, Virginia, Kentucky, Ohio, Maryland, etc. I shipped last summer one ton to one man in Pennsylvania. This spring one ton to Michigan to one man, and one ton to a man at Liberty, Ind. I mean to sown ten or twelve acres more of alfalfa each year on blue grass sod until I get my whole farm into alfalfa and blue grass mixed. I now have 58 acres of alfalfa. I don't need much grain to keep pure bred Herefords in good condition. I buy a little grain to feed to the cows in February and March. Of course I feed young, growing calves a little grain all the time, but I can sell a calf occasionally for \$100 and buy corn or oats from my neighbors, who think they must raise corn and pasture their stock on the public highway. Raise a patch of alfalfa and blue grass for your hogs. Set some locust trees out in it for shade and posts, they will not hurt the pasture.

Boone Co., Ind.

J. N. SHIRLEY.

CAN ALFALFA BE MADE INTO GOOD SILAGE?

Editor Southern Planter:

If alfalfa could be utilized in the form of silage it would be another way of using one of the most valuable of farm crops. As a soiling crop it is pronounced of the best, all animals are exceedingly fond of it, and will get fat on it without the assistance of grain, but few are ready or care to adopt the soiling system. Alfalfa makes first class hay. Haymaking is precarious, much often gets spoiled in the making,

and alfalfa spoils quickly, and as the crop is cut some four or five times during the season of its growth it would be a constant anxiety all the summer. Now, if it could be cut and carried whilst green and deposited in a silo all trouble from rain would be eliminated and the expense would be no more than making it into hay. The green alfalfa can be stored in much less space than it could be in the form of hay, probably it would be well to allow a wilting to take place before ensiling. The silage could be used at once, or it could be kept till wanted. I believe the most economical way to secure the crop would be to ensilo it even for use in summer. Can it be made into palatable and good silage? Any one who has had experience would confer a favor by giving his knowledge to the public, and Mr. Editor, your views would be highly appreciated. On many soils there is found difficulty in getting alfalfa to grow well. Not that the land is not good enough, but because sufficient attention is not given to the preparation of the land before seeding, and because the bacteria necessary to its production is not present, but this trouble can now be overcome by inoculating the soil with dirt from lands which have grown alfalfa, and in which the nodules on the roots caused by the bacteria are plentiful, or on application to the Secretary of Agriculture the bacteria in concentrated form will be furnished at slight expense, with full instructions for its use. It would be foolish to try to establish alfalfa without taking all known means to get a good stand for remember the sowing is not for a short crop like clover, but one that may be expected to remain good for many years, particularly if liberal dressings of phosphate and potash are applied yearly, and with a crop of this character one can afford to be generous with mineral fertilizers. The feeding value of alfalfa silage would be much higher than that made from corn, the bulk would be, from the four cuttings, about the same, and as there would be no annual plowing, seeding, or cultivation, it should be grown at less expense than corn silage, and I see no reason why it should not be deposited in the silo as it comes from the field without cutting or shredding. In taking it from the silo if a hay knife is used to slit it across, say every foot to the depth of daily consumption, it could be as easily removed as corn silage that had been through a silage cutter. Land after being several years in alfalfa properly fertilized and managed would be greatly increased in productiveness, capable of growing heavy crops of wheat or other cereals, and would be ready for alfalfa again in a short time. Some one may ask the question, Can alfalfa be used as silage, fed, say, into beef or milk, as profitably as when sold as hay at \$12 per ton at the farm? Taking into consideration the loss attached to haymaking, I think it could. The manure value of alfalfa is high, \$1.80 per ton for green and \$7.50 as hay.

As silage it must be consumed on the farm, when sold as hay the farm is robbed of fertility. Every acre of alfalfa consumed should furnish sufficient nitrogen for another acre or more every year. A field of alfalfa may be justly described as a trap to catch nitrogen from the air, not only for its own use, but for the benefit of other crops not having the power to acquire that important plant food from the atmosphere, and to do its best in this line it must be liberally supplied with phosphates and potash, and probably lime on some soils.

FOSTER CLARKE.

Mercer Co., W. Va.

Whilst we have no personal knowledge of the making of alfalfa silage, nor can we find any records of experiments made with it, yet we see no reason why it should not be made into good silage. Both Red and Crimson clover are made into silage, and whilst this silage is not always of the best quality, this arises not from the nature of the crops so much as from want of experience in siloing them at the proper time and in the proper condition of growth. When mixed with corn they make good silage. If this be so, then alfalfa can surely be made into good silage when the proper conditions are understood and observed. Experience is only needed.—ED.

ALFALFA GROWING IN HANOVER COUNTY, VA.

Editor Southern Planter:

Complying with your request for a contribution upon the subject of alfalfa. I sowed three acres in October, 1903. It came up beautifully, but did not grow large enough to withstand the freezing and thawing. To add to the troubles, water stood for a long time upon the lower part of the field. The higher part is a red clay hillside, part of the lower land is sandy, part is loam. The land had been plowed late in August and had been disked several times. So-called blood and bone fertilizer had been spread at the rate of 400 pounds to the acre for turnips. The turnip seed was bad, and did not come up. The land was disked twice in October and sowed to alfalfa at the rate of 30 pounds to the acre. The land had never been limed. It really needs lime.

Although most of the tender plants were killed, enough survived to give a fair stand on the higher parts of the field. I pulled out roots over 20 inches long, but could not get complete roots because they would always break off. The field was mowed once to cut down the weeds. The alfalfa is again about 18 inches high, but in danger of being destroyed by the weeds. There are no nodules on the roots, al-

though I tried to infect the land by spreading a lot of soil from another alfalfa field.

These are the lessons this field has taught me. October is too late for sowing. Shall sow September 1st.

Land on which water will stand is not suited to alfalfa. Clay soil seems to be as well (if not better) suited to alfalfa in this section as sandy land. As there are no old alfalfa fields near, I shall get bacteria from the Department of Agriculture. Soil from new fields will not do.

I have near ten acres in peas on a field that will be seeded to alfalfa September 1st this year. Shall use a ton of lime and a ton of phosphate "floats" per acre, and probably some potassium. The lime will cost me about \$2 per ton and the freight, the floats probably \$10 per ton delivered. Floats are untreated phosphate rock, containing 27½ per cent phosphoric oxid, or 12 per cent. pure phosphorus. A ton of floats contains 240 pounds of phosphorous, or as much as two tons of 14 per cent. phosphate fertilizer. The floats dissolve slowly, and are well suited for a field that is to remain permanently in alfalfa.

As our Commissioner of Agriculture and our Agricultural College and Experiment Station furnish little or no information upon the subject of alfalfa we must look to other States for light. The report of the State Board of Agriculture of Kansas for the year 1894 is exclusively devoted to alfalfa, and may be had free by writing to Topeka, Kan. I have seen alfalfa at the Nebraska Experiment Station at Lincoln yielding nearly nine tons of hay without irrigation, and I passed irrigated fields near Greeley, Colo., that are said to yield eleven tons. Western methods, however, are not suited for Virginia. Here weeds are more troublesome, and our lands are in need of fertilizer. I am told that a patch of alfalfa at the North Carolina Experiment Station is yielding eight tons and more alfalfa every year in spite of the fact that the field has not been properly limed as it should have been. Alfalfa fields in the South must be disked every spring and after every mowing after the second year. For further information I beg to refer readers to my article in the February (1904) issue of the SOUTHERN PLANTER.

Hanover Co., Va.

N.

CRIMSON CLOVER.

Editor Southern Planter:

I saw in the March issue of the SOUTHERN PLANTER, page 172, an account of the non-success of Crimson clover. I have been there myself. I then tried

sowing Japanese buckwheat with the Crimson clover, and had splendid results. The buckwheat grows very rapidly, and its thin, broad leaves make a fine shade for the clover from the scorching sun of September and October. When frosts come the buckwheat dies down and make an excellent mulch for the winter.

Incidentally buckwheat is fine "bee food," and if planted early enough for the seed to mature somewhat chickens will greedily eat it, and thereby vastly improve the flavor of their flesh.

Henrico Co., Va.

R. POWELL DUNN.

CRIMSON CLOVER.

Editor Southern Planter:

I note from your March issue that one of your subscribers living in Tennessee asks for some advice as to best time to sow Crimson clover. He states in his communication that he has sown Crimson clover in October and November and succeeded in getting a good stand but it always disappeared from some unknown cause. The main cause of his failure has been that he failed to seed at the proper time. I have raised Crimson clover for a number of years and very successfully but never from sowing as late as October 15th. Another reason no doubt for said failure existed in the manner in which the seed was put in. I have never failed to get a good stand when sown on good loose fresh plowed land when I put it in at the proper depth. It should always be plowed in with a light cultivator and the very best result that I have ever had was when I sowed the seed in my corn fields at the last working of the corn and put it in with an ordinary cultivator. This is most always from the middle to the last of July. Even though the fall turns out to be very dry you are almost certain of a good stand and a luxuriant growth. The corn shades the young plants and protects them from the hot sun. This gives the clover a good chance to become thoroughly rooted and set to the ground before freezing weather sets in. Crimson clover is easier killed by the hot sun and by freezing in its early stage than any of the clovers, but when seeded at the right time and in the proper manner it is the very greatest soil improver that the Southern farmer can use to-day. The following incident proved this most satisfactorily to my mind: A few years ago I bought a piece of red clay land that was poor. I broke it in April and worked constantly on it for three weeks with disc harrow, roller and spike tooth harrow trying to get it in shape for corn, there being just four and one-half acres in the piece. I

finally got it in good order and planted my corn May 22d. We had a good season, and on July 27th we plowed it the last time, at which time I sowed 25 pounds of crimson clover to the acre and got a splendid stand. At cribbing time I measured my corn and found that I had just 144 bushels of soft, spongy corn on the ear. The next season, May 21st, I plowed this clover under just as it was in full bloom, and it would average waist high. I planted my corn June 2d, and had not as good a crop season as the year previous, but when I measured my corn in the fall I found that I had made instead of 32 bushels to the acre, 56 bushels to the acre, or almost double the amount of the previous season on the same land, and this under more adverse circumstances. I have done the same thing quite a number of times since, and I have never failed to increase the yield from 50 to 75 per cent. I don't believe that there is a single observant farmer in the South to-day who after giving Crimson clover a thorough and honest trial will ever be willing to discard it. I have also followed Crimson clover with all the small grains, and always with the same results. Some future time I may take this matter up again and give you my experience further with it.

T. M. ARRASMITH.

Guilford Co., N. C.

We shall be glad to hear further from our correspondent on this subject, as it is one of present importance to all farmers. The time for seeding is just commencing, and we should like to see the crop much more largely grown, as we know it to be of the highest value.—ED.

LIME AND FERTILIZERS AS IMPROVERS OF LAND.

Editor Southern Planter:

If Mr. Hull will visit the sections of Pennsylvania where lime was formerly used to the extent that he claims he will find that the farmers discovered years ago that they had been liming too much. Thirty years ago in one of the best farmed sections of Maryland, Kent county, in late winter and spring the river banks were lined with lime boats bringing the lime from the Schuylkill and Susquehanna, and many farmers were like Mr. Hull, very enthusiastic on the subject of liming. But to-day he will find in that section but a small part of the lime used that was applied formerly, for the farmers have learned what lime does, and many of them had over-limed their lands and suffered for it. One of the oldest and best farmers in that section wrote me not long

ago that for twenty years he has used no fertilizer but acid phosphate, that has cost him an average of \$9.50 per ton, for the wheat crop, and from the average of thirty years ago of ten to fifteen bushels of wheat per acre he has averaged for many years forty bushels, and has used lime very lightly, and for years none at all. Mr. Hull says that sandy soils are rich in potash, while the fact is that as a rule sandy soils are the most deficient in this mineral element. Clay soils usually have much more potash than sandy ones. There are few of our old cultivated soils that are rich in phosphorus. In fact, the great deficiency in most of these soils is of phosphorus. Lime will never make phosphoric acid available, but it will, on the other hand tend to make it more unavailable by reverting it to the monobasic form. Lime is certainly valuable judiciously used in a good rotation, but the man who imagines that he can make poor land rich by liming will soon find that the lime has enabled him to still further reduce its fertility. Now, as to the sulphuric acid destroying humus, I know that Mr. Hull is in error. Near where I live is a large fertilizer factory. A few years ago their immense acid chamber was destroyed by fire, and tons on tons of pure commercial sulphuric acid flowed out over the bottom land on which the factory is situated. To-day that acid-soaked soil is just as rich in humus as ever and far more fertile than before its bath of acid. Any free sulphuric acid that may be in an acid-phosphate will at once seek some base in the soil and become a neutral salt of whatever base is present, either forming sulphate of lime or potash, as may happen. The acid cannot remain in the soil as an acid. There are no cultivable soils so deficient in these bases that free acid can remain in them. Your correspondent "N." says: "If 'Virginian' should ever use acid phosphate or potash on any crop he would destroy every bit of vegetation. He probably means use phosphorus and potassium, which are very different articles." They certainly are different. But will "N." please tell us how he would use phosphorus as a fertilizer, since it burns up at once when it comes in contact with the air, and how he would use potassium, which is a metal and altogether unavailable as plant food till oxidized to what we call potash. Acid phosphate is simply a superphosphate of lime, made by dissolving the lime phosphate that exists in rocks, so that its phosphoric acid can become available to plants. Potash is the oxide of potassium which is found in various combinations in potash salts and ashes, and if "N." says the application of acid phosphate and potash will destroy vegetation it is a little singular that the thousands of tons of these materials that are used annually have not had this effect, but have aided in the making of crops. We cannot use the pure elements as fertilizers, but must always take them in some combination. Hence I meant just what I wrote, and did *not* mean phosphorus or potassium, though these are what we are after in using the combinations that enable us to use them. "N." says: "It is no use to try to improve a farm by poor crops of peas. . . . It is better to sow fewer acres and fertilize these heavier." What will he fertilize them with if acid phosphate and potash will kill them? We have never advocated the keeping of more stock than can be well fed and fed at a profit. But no matter how poor the land, the farmer should keep stock enough to use up all the roughage that can be made before turning it into manure. Then as to pea vine hay. If there is any hay more easily cured I have not yet found it, after thirty years or more of experience. The man who keeps just what stock his land will feed will soon be keeping more. It is all very pretty in theory to get land rich with fertilizers and green manuring, but the man who fully realizes that feeding stock lies at the very foundation of profitable agriculture everywhere will find that his farm is gaining faster than the one whose owner is afraid of the trouble of feeding stock. I am fully in sympathy with a judicious and liberal use of commercial fertilizers, and am not afraid that acid phosphate and potash will burn up my peas, for I know that they have always made them grow rapidly, but at the same time I know from a long experience in the cultivation of the soil that it is wasteful to use as manure only, crops that have a high feeding value the larger part of whose manurial value can be recovered in the droppings. If a man is so situated that he cannot make any profit in feeding stock in some way, he would be the only man to depend on fertilizers alone, and even he would have to be quite rich if he could afford to spend \$100 an acre to make a farm on what is merely a place for one. There is not the slightest doubt that thousands on thousands of acres of Virginia land can be brought up to the production of even greater crops than "N." mentions, and more than this, they can be made to pay for the bringing up, and do not need a fortune to be spent on them before paying a profit. But to teach men that the Virginia lands are only "places for farms," and that a man must spend \$100 per acre on them before realizing any profit is certainly a great mistake. I know of no land in Virginia which

was originally productive and has a good clay subsoil that cannot be brought to a high state of productivity and made to pay for its improvement as it increases in fertility. Such lands are not worn out, but have gotten unproductive through bad treatment, and will quickly respond to proper tillage and rotation, and the feeding of live stock. This is not theory, for I have done it in more than one part of Virginia.

As our friend Hull gives his name, and I do not want to shoot from ambush, I give mine.

(VIRGINIAN), W. F. MASSEY,

Editor of Practical Farmer.

Our correspondent's remarks as to the inadvisability of using lime in connection with phosphatic fertilizers were no doubt made in response to our own remarks in a recent article as to the power of lime to render available potash and phosphoric acid in the soil. We, of course, were aware when making this statement that it had long been claimed that there was danger of reverting the phosphoric acid in an acid phosphate by the use of lime at the same time as the phosphate. We, however, doubt this. Experiments made at the Rhode Island Station from 1894 to 1899 go to prove that the two may be used together not only with safety, but with advantage. All the plots on which lime was used along with different forms of phosphatic fertilizers gave better results than those on which the phosphatic fertilizers alone were used. We would not, however, advise the application of the two at the same time. Apply the lime in the fall and the phosphate in the spring.—Ed.

CURING CLOVER HAY.

Editor Southern Planter:

I have always advocated, as you know, the storing of clover and other legume hay before the leaves get crisp. But I agree with you that clover cut in the morning and stored that afternoon will be more likely to make silage than hay. The curing should be largely in the winrows, however, and no heating should be allowed while there. When wilted so that no sap can be wrung to a twist the curing can be well completed in the barn.

W. F. MASSEY,

Editor Practical Farmer.

Skippers in Hams.

Do you know of any way to get rid of skippers when they have once gotten into the hams?

J. N. FARIS.

No. We believe it to be impossible to get rid of them with certainty. They cannot be reached. This is a case where prevention is the only course.—Ed.

ENQUIRERS' COLUMN.

Enquiries should be sent to the office of THE SOUTHERN PLANTER, Richmond, Va., not later than the 15th of the month for replies to appear in the next month's issue.

Silo Building.

Some years ago I dug a silo, but it was too wide and too deep for the number of cattle I had, consequently I lost much feed. I could not feed it as fast as it moulded. Being in stiff clay, water also ran in, and I had to give it up. Now, I want to build one above ground, and would be very glad if you would give dimensions and directions for building one to furnish feed for six cattle for about six months.

A. B. C.

King William Co., Va.

In our article on Work for the Month in this issue will be found information on this subject.—Ed. —

Effects of Warm Weather.

I notice that during the past spell of warm weather my horses and most all of the neighbors' horses stopped sweating, and in consequence they panted like oxen. Please give the cause and remedy in your next issue.

M. C. LEWIS.

We are unable to explain this.—Ed.

Richmond Co., Va.

Preparation for Irish Potatoes and Tomatoes.

1. Which would be best to sow in corn land for Irish potatoes next spring, cow peas or rye? What is best time to plow down?

2. We have about two and one-half acres of land, which stood under timothy sod for about eleven years. We broke it in February, broadcasted it with barnyard manure and used a fertilizer, 3-8-4, about 700 pounds to the acre. This land is planted in sweet potatoes. If we harvest the potatoes and sow the land in rye, can we grow a successful crop of Irish potatoes and peanuts? Irish potatoes to be planted the last of March in rows three and one-half or four feet apart. Peanuts to be planted between the potato rows in June, and potatoes taken out the first of July, the land to be well fertilized for each crop.

Accomac Co., Va.

G. L. MORE, JR.

1. We would sow cow peas now and plow these down in October, and then sow rye to conserve the fertility which the cow peas will have gathered.

2. Yes. We think so.—Ed.

Destroying Horns on Calves.

In the June issue of the SOUTHERN PLANTER, in reply to the question by B. S. H., regarding destroying horns by caustic, we notice Ed. says, apply two or three times. We have had much of this work done

while on a stock farm in the West, and one application is all-sufficient if properly done. Rub the caustic on until skin over the horn is thoroughly red, then stop, always using care to wet a spot no larger than the button of the horn, as caustic will burn wherever applied. We think that two or three applications would not only destroy horns, but injure the calf as well, as one application often makes the calf quite sick.

W. W. STOCKWELL.

Halifax Co., Va.

We have known the application made two or three times without injury, but are glad to have the advice as to care in using the remedy, given by our correspondent.—ED.

Rotation of Crops.

I have been much interested in your recent editorials regarding crop rotation, and especially the suggestions given in April number in answer to a correspondent. I had planned, and am carrying out, a different series of rotations, chiefly because of lack of other land for wheat crops, and would be very glad to have your criticisms.

My plan has been to sow cow peas the first year, with 100 pounds of acid phosphate per acre, to be turned under in September after peas were picked, and land sowed in crimson clover, which was pastured in winter and early spring, and turned under in April of second year for corn, on which I used 200 pounds of 2-8-2 fertilizer per acre. I then sowed peas and crimson clover in the corn, and the following year pastured it until June of third year, when it was turned under and land kept in good preparation for wheat and oats, to be sowed in September, with 200 pounds each of acid phosphate and kainit per acre, sowing mixed grasses on the grain in spring of fourth year, fallowing again in fall of fifth year, sowing crimson clover, turning that under for corn sixth year with 2-8-2 fertilizer. I fear that my plan is less thorough than yours, and the "drawing" crops of corn and wheat are closer together, and I have made no provision for liming the land. I would like to ask the following queries:

1. In my scheme, should I put lime on peas which I turn under the first year, and where that has been neglected, can I safely put lime on in June of third year, just before sowing wheat and oats, or has that plan any disadvantages?

2. Instead of sowing grass on the grain crops in spring, would you advise fallowing the land after harvest and sowing grasses that fall, leaving the land in grass for two full years?

3. Is there any disadvantage in growing wheat and oats side by side in same field?

4. Is the pasturing of cultivated fields objectionable, and is the tramping of soil a greater injury

than the droppings from cattle are beneficial?

5. Does agricultural lime contain any potash?

6. If you prefer muriate of potash to kainit, should it be mixed with the acid phosphate, or how shall I apply it to the land?

7. In sowing both peas and crimson clover in corn, I have found no means of covering the clover, which I sowed by hand, in showery weather, with fair success. Is there a better method?

8. Will nitrate of soda or muriate of potash deteriorate by being kept over, or should I buy only such quantity as I need at one time—I have never used either of these.

9. I have two lots, near stable yard, which I have used constantly for sorghum, followed by Crimson clover and peas, followed by Crimson clover—cutting all of these crops. If I fertilize the sorghum and the peas each spring, can I keep up the fertility of these lots? I do not fallow these lots for the clover crops, but simply drag each way over peas or sorghum stubble with straight tooth harrow and get good stands. Is this practice to be condemned?

10. Are disc plows, disc cultivators and disc harrows desirable for use on land where there is a sprinkling of rocks—some being as large as my head—or should I defer buying these tools until I can plow up and haul off all the rocks?

Amelia Co., Va.

SUBSCRIBER.

The rotation you are practicing is one that will no doubt result in constant improvement of your land, and should give you good crops. I think, however, it might be improved, and the answers we give to your first and second questions indicate the direction in which we think the improvement should be made.

1. We think liming is very essential to the permanent improvement of all land in the South, and would therefore lime your land once in each rotation, applying from 25 to 50 bushels to the acre. The lime would be best applied on the pea fallow to precede the clover, but if not then applied can with safety be put on after plowing the clover down for the wheat crop, and be then worked into the land whilst preparing it for that crop.

2. We have always strongly advised the seeding of grass alone instead of on a grain crop. You are much more certain to get a stand, and will secure a good crop usually the first year, which will be more valuable than the grain. We would certainly keep the land in grass two full years. It will, we feel sure, pay you to do so, and will result in giving you a good sod to turn under, which will greatly benefit the land by adding humus to the soil.

3. No.

4. This depends much on the character of the land. On light land pasturing is beneficial, as it tends to consolidate it and thus enables the crops to get better hold. Heavy clay lands, on the other hand, are often seriously injured by pasturing, especially if stock are allowed on whenever the land is wet.

5. We believe that some of the agricultural lime offered on the market claims to have potash in its composition. We would prefer to buy each separately.

6. We prefer muriate of potash to kainit for all crops except cotton. In the muriate you get a much higher percentage of potash usually at a less price per unit, and you get less useless material than in the kainit. Kainit, however, is valuable in preventing rust on cotton.

7. We do not know any better method than the one you adopt unless you sow the peas and clover early enough to permit of their being worked in at the last working. In this issue you will find articles dealing with this question.

8. Not if kept in a dry place.

9. Yes, we think you will maintain the fertility of the two plots in the method you adopt. We presume you apply stable manure to keep up the humus in the land.

10. Disc plows, cultivators and harrows do not work well amongst large rocks, but if these are not very numerous we think you would not find the tools difficult to work and they certainly make excellent work wherever they can be used.—ED.

Nitrate of Soda on Clover.

1. Will it pay to use nitrate of soda on Crimson and Western clover? When can it be used on clover sown in August?

2. How much to the acre, and the price of it?

3. Can it be sown by hand?

4. Where can I get the nitrate of soda?

Middlesex Co., Va.

GEO. H. HALL.

1. The clovers being all leguminous plants, and therefore able to get their own nitrogen from the atmosphere, it is not usually profitable to apply nitrogenous fertilizers to them. It does, however, sometimes pay to do so when the crop is weak in growth arising either from absence of the specific clover microbe in the soil or from damage by severe weather. In such a case nitrate of soda would be a proper fertilizer to use for the purpose. It should be applied when the plant is just starting growth in the spring. If applied in the fall it would have the

effect of inducing a tender growth, which would be likely to suffer in the winter.

2. From 75 to 100 pounds to the acre would be sufficient. It usually cost from \$45 to \$48 per ton.

3. Yes.

4. From Wm. S. Myers, 12 John street, New York city, who is the representative in this country of the nitrate of soda people.—ED.

Sorrel—Sheep Pasture—Pump—Windmill—Sheep Killed by Dogs.

1. What is condition of soil where sorrel grows? What is the best way to get rid of it?

2. Would wheat sowed in September be as good as rye, or would something else be better than either for sheep pasture next spring? Would it do to sow crimson clover with it?

3. What would be the best pump to put in a well about thirty feet deep? How would a windmill do? About what would a good one cost? Some say there is not wind enough in this part of the country to run one satisfactorily (Southwest Virginia, near the Tennessee line).

4. If dogs kill a man's sheep in the State of Virginia, will the State pay for the sheep?

Washington Co., Va.

A SUBSCRIBER.

1. The growth of sorrel is usually an indication of poverty of soil. The best way to get rid of it is to encourage the growth of better herbage by making the soil rich. This will soon crowd out the sorrel.

2. The best pasture for sheep for winter and spring is made by sowing in August or September a mixture of wheat, oats and rye in equal parts with crimson clover added. Sow 10 pounds of crimson clover with three-quarters of a bushel of the mixed grain per acre. A couple of pounds of Dwarf Essex rape seed per acre may also be added with advantage to the mixture.

3. Write the Sydnor Pump and Well Co., of this city, whose ad. you will find in the PLANTER. They are practical experts in pump and well machinery, with large experience of the conditions affecting different sections of the State.

4. No, the State does not pay for sheep killed by dogs. In some counties having special dog laws the county pays.—ED.

Goats.

Will you please tell me the kind of fence required to keep common goats in? Will a plank or rail fence do? If so, about what height? Will a shed do to keep them in? What is the best thing to feed them on? How old a child can ride them? Where is the

cheapest and best place to get them, and what is the price of both sexes, and also of kids?

SUBSCRIBER'S DAUGHTER.

A plank fence 4 feet 6 inches in height will keep goats in bounds but a rail fence is not to be relied on, as they climb so readily. They require very little shelter from the weather. A shed will be ample. They will eat forage of any kind, but prefer to browse on shrubs and undergrowth. We see very small children riding and driving goats here in the city. Much depends on the way the goats are treated from birth. We do not know of any place to buy goats, but an advertisement in the *PLANTER* would find them.—ED.

Angora Goats.

Do you think Angora goat raising would pay if run with sheep on a large mountain range where there is a plenty of undergrowth. Give prices of Mohair or wool. Any information about goat raising will be very much appreciated.

Amherst Co., Va.

W. W. MASSIE.

We are of opinion that Angora goats would do well on such a range as you describe. We have published a number of articles on these goats, and have several others which we expect to publish shortly. Western breeders of the goats are well satisfied with them, and we know of no reason why they should not be a success in the South. There are already a number of farms in the State where they are being tried, and from one or two of these we hear satisfactory reports. The Mohair sells all the way from 10 cents to \$1 per pound, according to length and fineness of quality of the staple and freedom from short under fleece. Mr. Mann S. Valentine, of Rockcastle, Va., who has some fine animals which he has advertised in our columns, could probably give you valuable information about the animals.—ED.

Lime.

I want to use some lime on my land this fall. Please tell me the best kind to use and where I can best get it in car lots. Cumberland is on a narrow gauge railroad, and the lime will have to be transferred at Mosley's Junction or Farmville.

F. P. FLIPPEN.

Cumberland Co., Va.

Use the rock lime. We should suppose that you could get this to cost least at your depot, from some of the lime kilns above Lynchburg, say at Eagle Rock. We hear that a Mr. Mason, of Ripplemead, on the Norfolk and Western railroad, is delivering lime for agricultural purposes at Burkeville at a very reasonable price. Perhaps he might be able to

deliver at your depot. Write Mr. Sandy, his agent at Burkeville.—ED.

Corn for Horses.

Which is the best way to feed corn to horses this time of the year? Feed dry corn on cob? Soak corn on cob? or crush and grind corn and cob?

Rockingham Co., Va.

W. M. H.

We think the best way to feed corn at all times is to grind it and mix it with bran and cut hay or fodder. In this way they get the full value of all the corn, and the bran supplies the protein the corn lacks. Corn and cob meal has given good results in horse feeding experiments, and with a little bran added makes an excellent ration.—ED.

Whitewash.

Please publish in the next issue of the *PLANTER* the receipt for making government whitewash.

Botetourt Co., Va.

SUBSCRIBER.

Slack half a bushel of good, fresh lime in boiling water, keeping it covered during the process. Strain it and add a peck of salt dissolved in water, three pounds of ground rice boiled to a thin paste, half a pound of powdered Spanish whiting and a pound of clear glue dissolved in warm water. Mix these well together and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace and put on as hot as possible.—ED.

Plant for Name.

Will you please give the botanical, as well as the English, name of the enclosed shrub or plant. Will you state if it has any medicinal properties; and if so, what they are?

M. C. LEWIS.

Richmond Co., Va.

The plant is Scotch Broom (*Cytisus Scoparius*). It has no economic value, but is often planted as an ornamental plant. It was introduced from Europe about a century ago.—ED.

Fleas in Hay Barn.

In our hog barn fleas are very numerous; will you please give me some remedy for exterminating them through your next issue?

E. L. HALE,

Halifax Co., Va.

Manager L. F. C. Farm.

Clean the place out thoroughly and brush down the walls. Then give the whole building, inside and out, a coating of lime wash, in which mix a pint of kerosene to each bucketful of the wash. Dust the floors with tobacco dust and trash. Persian insect powder (*Pyrethrum*) is also very obnoxious to fleas, but it is rather a costly remedy to use in a hog barn.—ED.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

Successional crops of corn, pole beans, lima beans and navy beans should be planted every week or ten days to keep up the supply until frost cuts them off. Sweet potatoes may yet be set out and cuttings from the plants set earlier should be taken off and be planted. Cut off the ends of the vines with three or four leaves on and insert them in the soil nearly up to the top leaves, and they will soon take root if the ground be moist. These cuttings will make potatoes for seed that will be better than those from the earlier planted draws.

Keep the cultivators running in the crops that are growing to encourage growth and keep down weeds. As land is cleared of crops, if not wanted for successional crops, seed with Crimson clover and cover with the cultivator. This will help to keep up the fertility of the land and make a good fallow to plow down.

The late crop of Irish potatoes should be planted. The sets used should have been kept in cold storage to prevent sprouting. These sets should be sprouted slightly by being spread out on a moist, shady piece of ground for a few days before being set. Potatoes grown from these sets will mature just before frost, and will keep well during the winter. Do not be sparing in the use of fertilizer. Use a complete fertilizer having a high percentage of potash. Such a fertilizer may be made up of 300 pounds of nitrate of soda, 600 pounds of fish scrap, 800 pounds of acid phosphate, and 300 pounds of muriate of potash. Use from 500 to 1,000 pounds per acre.

In the Eastern sections of Virginia and North and South Carolina the second crop of Irish potatoes should be planted. This crop is grown from seed raised this spring. The sets should be the medium sized potatoes sorted out when digging the crop, and should be planted whole. These sets should be spread out in a moist, shady place and have a little fine, moist soil spread amongst them, not sufficient to cover them, but just sufficient to pack around them. They will green and commence to put out sprouts. When fairly sprouted they should be set. Open the furrows deep. Apply the fertilizer in the bottom of the furrows and mix with the soil. Then drop the

sets and just barely cover them with soil. As they grow work the soil into the furrows and bring to a level surface as the plants grow. Keep level and cultivate frequently. This crop makes the best sets for spring planting, and there is a heavy and constant demand for them. The crop should mature just before frost.

Celery plants should be drawn from the seed bed and be set out on a bed in a moist, shady situation to grow on for a month before being set out where they are finally to grow and make a crop. If the plants are at all drawn or spindling, clip the tops back, and repeat this if necessary in order to keep the plants stocky.

Seed may be sown for late cabbage and broccoli plants to set out in September. Dust the beds and young plants with tobacco dust to keep off bugs and worms.

Seed may be sown for crops of fall turnips, radishes and lettuce.

A NEW STRAWBERRY.

Mr. M. T. Thompson, of Rio Vista, Va., sends us a sample of his new strawberry, "Thompson's No. 2." This, he claims, to be one of the finest of the many new varieties which he has produced. It is certainly a good berry, large in size, fine in color, and very firm and will make a good shipper. We are inclined to think that it is not so fine in flavor as his "Mark Hanna" berry, but this season was against it, as it was so dry just at the time it was maturing.

FRUIT PROSPECTS IN VIRGINIA.

Editor Southern Planter:

In the Piedmont section of Albemarle county the prospect for peaches is a very heavy crop, in many places a record breaker. The same may be said for plums. Apples are a very light crop. Pears scattering, and cherries vary very much, some places have none, others higher up are full. Off the mountains generally there is but little fruit. Damsons are also among the heavy crops this year. Strawberries are just over and have been a great disappointment, having first been considerably injured by frost, and later by dry weather. Prices were good

for what was shipped (about one-fourth of normal crop only).

WALTER WHATELY,

Chairman Committee on Transportation, Virginia State Horticultural Society.

FOUR PAYING CROPS PER ANNUM.

Editor Southern Planter:

In an interview this morning with one of our leading truck farmers, we gleaned the following "facts, figures and features" respecting some of his trucking operation, which may be of interest to some of your readers:

We paid special attention and took great interest in the results he had secured and is now securing from one little patch of four acres now in beans (snap beans) about ready to begin shipping.

In September last (1903) he sowed spinach on the four acres, and, beginning after Christmas, he cut and marketed the spinach at the rate of 100 barrels to the acre, getting therefor in Northern markets from \$2 to \$7 per barrel, or an average of about \$4.50 per barrel. On Washington's birthday, February 22d he cut spinach at \$5.50 per barrel.

In March he transplanted 175,000 lettuce plants in this four acres. Just a few days before cutting his lettuce he planted beans (snaps) between the lettuce rows. He cut 450 bushel baskets of lettuce to the acre, which sold for \$2 to \$2.75 per basket. The beans are now nearly ready to begin shipping. The last week in May he planted canteloupes between the rows of beans, at proper intervals. He will get at least 150 to 250 baskets of snaps to the acre, good for \$1 to \$2 per basket, and in July will get 250 crates of canteloupes to the acre, worth \$1 to \$1.50 per crate.

His gross sales will reach \$2,000 to the acre. If his net profits do not reach \$1,000 per acre it is because of gross mismanagement somewhere.

Nature will do her very best to help this gentleman make \$1,000 per acre per annum from that four acres of land. This, take notice, is not hot house work nor fancy work. It is business, strictly business, from start to finish—from one end the year to the other.

Nor is this a special effort upon his part to make a record or to beat some other record. It is a regular thing for him to do, and he is doing it every year. He uses a liberal supply of fertilizers, especially those with a bone base (and there is a "right smart heap" of fertilizer in his hat), he also uses good implements,

and believes in thorough cultivation and manipulation of the soil.

He keeps his land busy summer and winter. He keeps it covered all the year with growing crops, so that neither the frost of winter nor the summer's sun finds any bare or uncovered soil to work upon. Notwithstanding the fact that he grows successfully and easily four crops per annum from the same land, he has all of the month of August to prepare this land for another routine of four crops.

If the regular farmer would but pursue his calling as intelligently and as vigorously as our trucker friend what wonderful results might not be attained in the Old Dominion.

Such results could not be secured unless the soil and climate were very favorable. Even then such results would not be secured except that the markets demanded the produce, and the freight rate and shipping facilities were favorable. The fact is that our soil and climate are both very favorable, and when it comes to freight rates, if we measure by the rate, we are within 25 miles of 10,000,000 consumers. If we measure by hours, we are within 12 hours of 20,000,000 consumers. Therefore the soil, climate and markets, are all stimulating. In such case man will naturally do his best.

A. JEFFERS.

Norfolk, Va.

THE LETTUCE CROP.

Editor Southern Planter:

Mr. Jeffers speaks of intensive gardening with lettuce and snaps, etc. If he wishes to see real intensive work with lettuce he should visit some of our New Bern (N. C.) truckers. One firm there has now 12 acres in frames with steam pipes running through to keep out frost, and they are doing real intensive work, for the lettuce is all gone to market for round prices during the winter and early spring before the out-door lettuce around Norfolk starts, and they have the out-door crop, too. They are now growing celery in these heated frames, starting late in the fall and crowding the plants to bleach and get them ready for market when the market is bare of celery. The same pipes that heat the frames are used for watering as they have sprinklers on them and can attach to the pump and the frames are showered over when needed. This is a start in intensive gardening, and it will not be long before there are acres in the upper South covered with glass structures for real winter forcing of tomatoes, strawberries, snaps, etc. I have grown a fine crop of snaps in the greenhouse in winter in six inch pots, using the English forcing sorts. I

have sold 260 pounds of tomatoes in winter from 26 plants, and got 25 cents a pound for them on the local market when the Florida crop was selling for one-fourth the price. Cucumbers are another crop that we can force in winter much more profitably than the Northern growers, who have to use far more expensively built and heated houses. I have sold forced cucumbers to the winter resort hotels for 75 cents a dozen, and could probably have gotten more if I had grown them in quantity large enough to pay for shipment North. The intensive work that we should do in the trucking section of the South is not merely the intensive use of the open ground, but intensive work under glass that will enable us to compete with the far South with products of higher quality. Then it is also true, as Mr. Jeffers says, that we need more stock farmers, but in a section like that about Norfolk, where the trucking interest is paramount, the man who has good truck land will hardly go into farming with stock, but into that which is the most profitable in his section. But there are vast areas near Norfolk which are not the best truck soil, such as the black, moist lands on the Norfolk and Southern Railroad, where the whole country is devoted to corn only, but which is admirably suited to grass and stock, where stock farming could be made more profitable than any section I know of. With lands as fertile as an Illinois prairie and right at the ports of shipment, export cattle should be more profitable than in the West, from which they have to travel over the whole country.

W. F. MASSEY,
Editor of Practical Farmer.

GARDEN NOTES.

Editor Southern Planter:

The several crops on the truck farm and in the garden will need prompt attention this month. The cultivator should be run as late as possible to make the crops continue bearing late into the fall. If a loose mulch of dirt is not kept on the surface of the soil, most vine crops will bear only one or two good pickings and then fail.

The benefits of cultivation, or the philosophy of tillage, are but little understood by the general farmer. It is too often the case that the farmer makes a rule to cultivate his crop "so many times" irrespective of the season and soil conditions. Hence failure too often results when drouthy conditions prevail. However, this subject of tillage is important

enough for a whole book, and I must pass it by till a more opportune time.

I have found in my experience that it does not pay to stake tomato vines for a general crop to be used in canning. Pruning and staking the vines will make the crop earlier and the tomatoes fewer and larger, and will materially lessen the yield. For general purposes, I prefer giving the soil shallow tillage as late in the season as possible, and then spread straw under the vines to keep the fruit off the soil. This straw will greatly help to hold the soil moisture if drouthy conditions come in July and August. While there has been an abundant rainfall in Southwest Virginia especially, so far, still if drouthy conditions should set in later on, disastrous results would be much more serious. The soil would become hard and parched.

Old strawberry beds will need attention now. If these are very filthy and the foliage much diseased, prepare to set a new bed. Where the bed is not so foul as to require destroying, mow the old foliage down with all the weeds and grass. Let this material become dry, then scatter it over the beds, and where it does not give all the plants a very light covering use some straw or leaves. Set fire to the trash and give the bed a slight burning. Take a one-horse turning plow and throw the soil together between the rows. This will usually kill the filth between the rows and leave a ridge of plants about twelve inches wide. Use a small, sharp hoe to clean out the weeds on this ridge. In about a week use the cultivator on the ridge thrown up between the rows to bring the dirt back against the plants. By this method I have seen old beds be made to bear good crops.

Late cabbage will require frequent cultivation now. The cabbage worm is likely to make its appearance as usual this season. Fresh Persian insect powder dusted over the plants early in the morning while the dew is on and the worms are usually on the outer edges of the leaves may be all that is needed to destroy this serious pest. The hot water treatment and arsenical poisons are often advantageously used, but these things require extreme care in their use, and I do not recommend them to any one who has had no experience with such things. The Persian insect powder is not poisonous to man or plants. Old stock is sometimes kept at drug stores which has largely lost its strength. The fresh article should be had. This powder is a most valuable household article also for flies, mosquitoes and many other insects that infest houses, barns, berries, etc.

Weeds are making a wonderful growth this season. The best way to kill a weed is to do so while it is in the seed. Keep all weeds from seeding, if possible. This will save the back and many drops of perspiration next year.

Sow cow peas on all soil where the truck crops are harvested. This is a wonderful plant to loosen the soil and increase its fertility. It will lower the fertilizer bill and increase the bank account.

Montgomery Co., Va.

R. H. PRICE.

VELVET BEANS.

"Velvet beans are not a desirable crop to make into hay. They make such an enormous tangled growth that neither man nor machine can handle them. They are fit only to use as an improver of the soil."

The above item clipped from the last issue of THE SOUTHERN PLANTER misrepresents a good forage plant. A great many acres of velvet beans are made into hay in Florida every year. Of course on rich land the growth is often almost too heavy to handle and it is slow cutting with a scythe.

I noticed in the Tribune Farmer a few weeks ago that a mechanic had invented an improvement on mowing machines, a device for cutting upright which divides the swaths from the standing crop.

Cow peas have long been used for hay, but I have seen such a growth of vines and crab grass mingled and lodged that a man could only pick out a little at a time with a scythe, yet the whole piece was made into hay.

W. C. STEELE.

Florida.

Whilst it is doubtless true that velvet beans are made into hay in Florida and perhaps elsewhere yet we maintain that the reply we gave to the enquiry is correct. We spoke from a personal knowledge of the crop and also from reports received from several subscribers who have grown them. The mass of tangled vines is so great on good land that neither machine nor man can cut or handle them. We have grown the vines 25 feet long.—Ed.

THE MARKET PROBLEM.

Editor Southern Planter:

The returns from the garden and truck farm will begin to come in this month. How large they will be will depend much upon how the crops are marketed. When a crop is grown, it has been stated that only half the important work has been done. The other half is to market it to best advantage.

In the first place the grower should be looking

out a market long before the crops mature—especially for all perishable products. Also the character and business standing of the buyers should be looked into. The transportation routes need looking after beforehand. If several growers will join together better rates will likely be granted and commission men may be induced to come and buy on the ground. Much will depend upon clean, nice, standard boxes or crates. These should be well filled with fruit and products of an even grade and standard. Everything should be honestly packed and guaranteed to be as represented when sold in unbroken packages.

A grower recently told me he had always sold under a guarantee in the Lynchburg market and his returns ran five per cent. above the market quotations. He had orders ahead for more products than he could grow and ship. He sold berries, fruits and general farm crops.

R. H. PRICE.

Montgomery Co., Va.

We have for years urged the importance of the points above raised by our correspondent, especially those of combined shipments and honest packing in clean new crates and packages. They are vital to success.—Ed.

THE CALIFORNIA FRUIT CROP.

The California deciduous fruit season opened April 30th with the shipment of a box of Sacramento Valley cherries on that date. The first box, which was grown near Vacaville, Solano county, was closely followed by a box of cherries grown near Sacramento and others grown in the Winters district in Yolo county and in the Newcastle district of Placer county. Following these, shipments were made from various fruit districts of the Sacramento Valley.

Notwithstanding the fact that ripe California cherries are usually shipped earlier in the season, sometimes as early as March, the initial shipments brought very fancy prices. The first box was sold in Chicago for \$25, \$3.12 a pound. The second sale was made in New York and the figure was \$21. The third sale, made in the city of Philadelphia, at auction, was a record breaker, eight pounds of cherries bringing the remarkable price of \$70.

These shipments marked the beginning of California's fruit season. Carload shipments from Sacramento Valley districts began May 13th, when a carload of cherries was shipped from Vacaville.

The fruit crop of California will probably be slightly below average in quantity this year. The Sacramento Valley fruit districts, which provide the bulk of California's deciduous fruits, report heavy crops of pears but slight shortage in most other fruits. Apricots will begin ripening within a few days.

Live Stock and Dairy.

DUAL PURPOSE SHORTHORNS.

We take the following from the Breeders Gazette. It is in line with what we have long advocated, and will, we trust, receive the attention of some of our breeders. We need, and need badly, in this country a revival in the breeding of the milking strain of Shorthorns. The English farmer knows and appreciates their value. Probably two-thirds of the cattle of that country are of this type. They make milk and butter with the best, and at the same time breed calves which make steers of the best butcher type. We hear that there are several herds of this type in the New England States, but few elsewhere. One herd in Massachusetts tracing to Arabella has had top crosses of the Princess, the Duchess, the Constance and the Waterloo families, and shows cows weighing from 1,200 to 1,600 pounds, with milk records of 40 to 50 pounds per day, and very persistent milkers, some making 11,000 pounds per year. These cattle are smooth and well fleshed, the object of the breeder being to combine beef and dairy qualities. The Breeders Gazette says:

Pertinent to the present discussion of the old-fashioned milking Shorthorns, and the accompanying lament over the lack of effort to perpetuate and improve that type, comes the report of a recent sale in England of a herd of eighty pedigreed Shorthorns at an average of nearly \$215. Concerning the character of these cattle the London "Live Stock Journal" offers the following interesting testimony:

"The Cranford herd is one of the largest pure bred ones in the South of England, and is well known for its excellent milking qualities. The animals offered were not made up for sale, but came straight from the meadows, where they are kept both in summer and winter. It would be difficult to find a herd, kept under the same conditions by a tenant-farmer, displaying such excellent quality and such a hardy and yet serviceable character, and that these are appreciated was proved by the number of buyers and their spirited bidding."

The tenant-farmer who can drive eighty head of cattle up from his pastures and sell them at an average of \$215 is in pretty fair business. He knows a thing or two. He knows the demand for Shorthorns of this type, he knows the value of the dual-purpose cow, he has proved it in his own herd, he understands that a double profit may be reaped from the "double-deckers." And many a farmer in this country is looking for just such a farmer's cow. A few have given persistent adherence to this valuable type, but thoughtful men now understand that much has been

lost to the breed by a lack of more general interest in the perpetuation of the milking Shorthorn in this country. If there is any more inviting field of effort at the present time than the founding of herds of strictly high-class dual-purpose Shorthorns, we do not know where it lies. Some material for this purpose may be obtained in this country, an abundance of it could be selected in Britain.

THE CATTLE TICK AND THE QUARANTINE LINE.

Editor Southern Planter:

So long as we entertain the cattle tick just that long will the quarantine line cross the boundaries of our State. It therefore behooves every farmer to join hands with his neighbor in the extermination of the pest and to rally beneath the standard which is being advanced through the efforts of the SOUTHERN PLANTER. There is no doubt but that in this disease just as in a score of others the greater part of the trouble comes through carelessness and absolute neglect. It avails little if farmer A sits up nights trying to get rid of the ticks on his animals while farmer B pays absolutely no attention to the tick question and his animals are permitted to seed the highways and by-ways with this vile insect. The remedy is in co-operation. All Texas is joining hands in the eradication of the dread boll weevil. Conventions and institutes are being held, experts are called, farmers are co-operating, and it begins to look as though the weevil will be banished from Texas. A similar move on the part of the farmers in Virginia will make things uncomfortable for cattle ticks.

Louisiana has recently fattened a bunch of steers that surprised the Chicago markets. They were of high quality, perfectly finished and exhibited the qualities of beef animals to a remarkable degree. The fact that these steers were raised and finished in the hot bed of the tick region indicates that it is possible to overcome the ravages of the tick if care and attention are given. These cattle were kept free from ticks by a liberal use of Zenoleum. The preparations mentioned in the SOUTHERN PLANTER may be effective but we are somewhat suspicious of them and so long as we can get Zenoleum we think we will not risk them. Dr. Nesom, Veterinarian to the South Carolina Experiment Station, tells me that he uses Zenoleum for removing the tick and that he finds it entirely satisfactory.

The feature of this Zenoleum that attracts me most

is that in addition to destroying the cattle tick it also destroys any other parasite that may be present, cures mange, ring worm and other skin diseases and at the same time its effect upon the hide and hair is cleansing and beneficial. The question is not so much what will destroy the cattle tick as is what will destroy the tick and not destroy or injure the animal. Sulphuric acid would no doubt end the career of every tick upon an animal but the trouble is the animal's career would be ended at the same time. What you want to do is to destroy the tick and other parasites, clean the animal's coat and skin and put him in a position to thrive. We know of nothing that will accomplish this so well and so satisfactorily as Zenoleum.

A READER.

THE HERFORD AS A MILKER.

RELATIVE RICHNESS OF FIRST AND LAST MILK.

Editor Southern Planter:

Errors like weeds grow apace and are hard to overcome. One often hears it said "the Hereford is no milker," although it is admitted that the assertion is founded entirely on hearsay, experience being nil.

On one occasion the writer was asked in earnest if Hereford grade cows gave milk enough to raise their own calves.

Disclaiming an Hereford axe to grind, the ownership of a registered bull and cow is admitted, and for the past five years I have been engaged in breeding grade Hereford calves letting them run with the cows, but a milking test is afforded, in that the cows require milking until the calves are able to consume all the flow. Observation shows that the grade calf makes flesh with a less proportion of milk than common stock and that the milking qualities of the common cow are fully reproduced in the grade one. It must here be understood that I am writing of crossing on common stock which have proved themselves good milkers, and not on full blooded breeds, which would be an interesting experiment but beyond my opportunities. What I want to uproot is the prevailing falsity that Herefords are not good milkers, if raised in a natural condition and not abnormally stuffed to gain superlative fat or show order.

That such falsity should be entertained is to keep out of our herds the admixture from a type of recognized strong (if not strongest) constitution adapted for milk or beef as the on-breeding leads up to. This is a point which on the closer and closer domestication of cattle should be kept very fully in view, and it omens well for the future plain dairy men that

their cows will principally be drawn from the range-bred Hereford which has assumed the mastery of the great West.

In the interest of the dairy I should be obliged by an answer to the following question: Are the "drippings" really richer than the rest of the milk or is it merely "tradition"? Should they be so, then logically frequent milkings would give more cream? Why "drip" a cow?

W. M.

Albemarle Co., Va.

Experiments have clearly demonstrated that the last milk drawn is the richest. At the New York Experiment Station a test with five cows showed that the first pint of milk contained only .3 per cent of fat while the last pint contained 6.85 per cent. and the mixed milk from the whole milking averaged 2.55 per cent. In every instance the first half contained only from one-third to one-half as much fat as the last half. Similar results are reported from Connecticut and also in Indiana and New Hampshire.—Ed.

MORE FINE JERSEYS FOR VIRGINIA.

We note that at Mr. T. S. Cooper's recent sale of imported Jerseys, Col. A. M. Bowman, of Bowmont Farms, Salem, Va., was again a buyer of some of the best of the stock. Amongst the animals bought by him was Mabel's Blue Belle, three years, \$1,000; Brown Fontaine's Princess, three years, \$675; Eminent's Golden Liberty, five years, \$560; Golden Diplomas Sweet Rose, four years, \$475, and Fontaine's Oxford Belle, five years, \$435. The sale was a great success. Ninety-one head sold for \$44,460, an average of \$488 each. The success of the sale was due largely to the fact that nearly all the females were bred to Golden Fern's Lad, and those not not in calf had the privilege (which none refused) of having them bred before shipment. It will be remembered that Col. Bowman was a large buyer at Mr. Cooper's sale last year. The additions made last year and this make the Bowman herd now one of the finest in the country. Col. Bowman is a constant advertiser in our columns, and those desiring Jersey stock of the best breeding can always depend upon meeting with it at Bowmont Farms.

THE FARM HORSE.

Editor Southern Planter:

I am a reader of and subscriber to the SOUTHERN PLANTER, and think it the best paper of its kind for the Virginia farmer. I think, as W. R. C. said in

the March issue: "It should be a weekly paper, and not a monthly, and charge accordingly." I enjoy especially the part headed "The Horse," edited by Broad Rock. But he gives us very little information about the horse suited to the farmer. The farm horse of this section is at its lowest ebb, the average weight being about 850 pounds, possibly less, making them entirely unfit for the work of the farm. They are too light for the work required and too small to raise good colts from. There is a vast difference in Virginia in the horse of to-day and the horse of fifteen or twenty years ago. They are now much lighter and not nearly so well proportioned. What is the trouble? One of our horsemen in Louisa remarked: "Our horses are getting too near akin." I think myself that is one cause of deterioration, but not the greatest trouble. If we had been raising sires of the proper size instead of the little narrow hipped, thin necked horses, whose fee is from \$4 to \$8 dollars, we would still have good horses. How would some of the heavy draught breeds do here. Percherons or Shires? Some one has suggested the Clydesdale. I have very little personal knowledge of the heavy draught animals named as farm horses. One of our farmers says: "They don't suit the climate." I would like to have some information along this line by some one who *knows*. I don't like the color of the Percheron, it being mostly grey, but that is immaterial if qualities are all right. Can any one inform me, through the columns of THE PLANTER, as to which of the above horses is best suited to the farm? Also who raises them for sale, and what will a pair of mare colts cost at weaning time? Would be glad to correspond with any one having them for sale. I am partial to the Shires. Who has them?

DAVID SWIFT.

Louisa Co., Va.

Will some of our horse breeders please favor us with their views on this important subject. It is high time for us to have better bred and more suitable horses for farm work, and thus become less dependent on Western bred horses for our farm teams.—
Ed.

DUROC JERSEY HOGS.

Editor Southern Planter:

I have often been asked to describe the Duroc Jersey, and beg to say a word about this new breed of swine that is forging its way to the top of the hog ladder of fame, and is the leading breed in the great grain growing West, where the stockman wants the

hog that can the quickest convert his corn into marketable pork.

The Duroc is cherry red in color and in conformation is similar to the Poland China, being built low to the ground, long, round, firm body, tippy ears and short face and head. He is just as industrious as the Berkshire, and grows faster and larger than his black brothers. The sows are better mothers, being very kind and gentle and fine milkers, have the best of dispositions, and are the most prolific of any breed. They breed perfectly true to color, and have fine, straight hair. It is generally the case once bred always bred, and there is no better testimonial than this.

There is no doubt that the Duroc is one of the best all purpose hogs being bred to-day, and a trial with them will convince you of the absolute truth of this assertion. My herd is the finest ever owned east of the Ohio river.

WM. G. OWENS.

Chesterfield Co., Va.

JUDGING AGES OF ANIMALS.

At the Smithfield and Birmingham shows the following rules govern the judgment of the age of animals:

Cattle having their central permanent incisors cut will be considered as exceeding one year and six months.

Cattle having their central permanent incisors fully up will be considered as exceeding one year and nine months.

Cattle having their second pair of permanent incisors fully up will be considered as exceeding two years and three months.

Cattle having their third pair of permanent incisors cut will be considered as exceeding two years and eight months.

Cattle having their fourth pair (corner) permanent incisors fully up and their anterior molars showing signs of wear will be considered as exceeding three years.

Sheep having their central permanent incisors cut will be considered as exceeding 10 months.

Sheep having their central permanent incisors fully up will be considered as exceeding 12 months.

Sheep having their third pair of permanent incisors cut will be considered as exceeding 18 months.

Sheep having their third pair of permanent incisors fully up and the temporary molars shed will be considered as exceeding 24 months.

Sheep having their corner permanent incisors well up, and showing marks of wear, will be considered as exceeding three years.

The Poultry Yard.

FEEDING HENS.

Experiments conducted on the Stockman Poultry Farm demonstrate that it is not fair to charge the cost of keeping a hen at \$1.25 per year as is frequently done. Last year the average cost was 77 cents. Excluding all on open range and taking only yarded pens on the regular ration, the cost was 84 cents. The average weight of these hens is from five to six pounds. I believe Mr. Boyer's hens are Light Brahmas, which require somewhat more feed. It is hardly fair, however, to take that breed for a standard of comparison in feeding, for there are few who are foolish enough to attempt to produce large numbers of market eggs with Light Brahmas—except in the East, where high prices offset many disadvantages. The average price of feed was 1 1-7 cents, corn being 1 1-7, run-of-mill 1 1-4, oats 1 1-2, animal meal 2 1-2, and meat scrap 3, beef heads 5 cents each. The regular ration here is corn, run-of-mill and cooked meat.

While trying to "prove all things" I hold fast to that which I have found good, and am more and more convinced after each experience with special feeds that there is no more economical or efficient egg ration than corn and run-of-mill, with meat and green feed, of course. And this is true in spite of the danger of feeding an excess of crude fiber. This danger may be greatly lessened by adding a small amount of oil meal to the mash, the cooling and soothing effect of which helps to modify the effect of the bran. And it is worth while to note here that some of these proprietary feeds seem to carry nearly as much crude fiber as run-of-mill.

As Mr. Patton observed in a recent article, oil meal is a cheaper source of protein than bran, though it should not exceed 20 per cent. of the weight of the mash; \$1.25 will buy twelve pounds of protein in bran and twenty-four pounds in oil meal.

On this ration the feed consumed by each hen has averaged over three ounces a day or from seventy to eighty pounds a year. The heaviest laying pen, No. 3, required eighty pounds.—*National Stockman*.

BOWEL TROUBLE.

Bowel trouble is one of the most prevalent causes of destruction to the young chicks. This may come from many causes, among which is continued dampness, wet and cold. Much of this may be avoided by having a dry, comfortable coop for the young chicks where they can be in with the hen and away from the influence of the damp, injurious surroundings.

Another cause is insect vermin. Where the young chicks and the mother hen become infested with the insect vermin or lice which reduces vitality, if the weather is warm, sultry and rainy, the combined influence so reduces the system as to create bowel trouble, which is very hard to overcome. The best way out of this is to obliterate the presence of the insect trouble on the mother hen, the chicks and in and about the coop, and to feed good, warm, stimulating foods to build up the constitution.

There is nothing better for building up a weakened constitution from any of the bowel troubles than a mixture of very finely ground oats, equal amount of corn meal, some wheat middlings mixed with milk, boiled until thoroughly dry. Into this put one level tablespoonful of the following powder for each twenty-four chicks. This powder is made of equal parts of very finely ground ginger, cinnamon, cloves, allspice and cayenne pepper. Do not give this oftener than once a day, and the other foods should be made up of either whole or broken wheat, hulled oats or oatmeal and a little cracked corn.

Another most beneficial food is the Johnny cake that can be like a true corn bread made entirely of ground meal mixed with milk, either sweet or sour, with a little bit of baking powder put into this, and an egg or two, using the clear eggs that do not hatch. Mix this thoroughly as you would corn bread and bake in the oven. When cool crumble and feed to the young chicks. Cooked foods of all kinds are very beneficial to the depleted lot of chicks, because it is much more easily handled through the crop and gizzard and assimilated through the system, and all possible injury that may come from eating raw meals is removed through its use.

GAPES IN CHICKENS.

To the Gazette.—In your May 18th issue I note a communication from an Indiana reader concerning gapes among his chicks and his experience with them. The many remedies he suggests are all right, but they are too tedious to apply. Clean yards and runs may be essential—in fact, they are—but after the gapes are among the chicks they do no good. Lime is a good cleanser of the yards if plowed under or spaded in. We keep our yards in green feed and if any gapes are noted among the chicks we put three to ten drops of carbolic acid in a gallon of water in fountain, stirring thoroughly into the water. Put other water out of reach and the chicks will kill their own gapes. We know this to be an unfailing remedy.

Lancaster Co., Neb.

A. D. BURHANS.

The Horse.

NOTES.

Seemingly greater interest was never manifested in breeding horses than at the present time, as indicated by reports from many different sections. This applies particularly to our own State and where lethargy prevailed for a number of years the scene has shifted to one of activity. Harness stallions in the vicinity of Richmond have all been quite liberally patronized. Robert Ransom, 2:29 $\frac{3}{4}$, who died in May, served some good ones, as have Great Stakes, 2:20; Alfred Nelson; Lord Chancellor; Kelly, 2:29, and others. Speaking for Kelly I am pleased to state that no horse ever offered for service in this section has seemingly found greater favor in the eyes of breeders as may be shown by the way in which high-class matrons have been sent to the court of the son of Electioneer and famous thoroughbred Esther. Of course, his near relationship to Expressive, 3, 2:12 $\frac{1}{4}$, being a full brother to that noted mare makes his pedigree wonderfully attractive, but in addition the bay stallion has speed, good looks and potency himself. Expressive is 16:2 hands and last fall at public auction in New York the great daughter of Electioneer brought \$1,700 as a brood mare. Esther, the dam, was 16 hands, while Kelly is full 15:3, which shows that the family breeds size, ever an important consideration with breeders.

D. L. Flory, of the Warwick Stock Farm, which is near Denbigh in Warwick county, Va., owns a well bred young stallion in Lord Warwick, 35971, formerly Duke of Arundel. He is a bay horse, four years old, by the famous Onward, dam Cora Ettie, dam of Axle, 2:15 $\frac{3}{4}$, and Annie Ripley, 2:18 $\frac{1}{2}$, by Adrian Wilkes. Over fifty mares, many of them the best in that section, have been mated with the son of Onward this season, among them being such good ones as Etta Moore, 2:19 $\frac{1}{4}$; Santa Annita Maid, 2:20, and others with records.

In the bay mare Virginia, 6, by Greatstakes, dam Tredelma, by Trevilian, Richard Hentechel, of Baltimore, has a good prospect for a 2:15 performer. She is one of the first performers of the season to enter the list of standard speed and trotted to a record of 2:21 $\frac{1}{4}$ at Baltimore recently. Virginia was bred at Foxhall Farm, Norfolk, Va., by Capt. John L. Roper. Her sire, Greatstakes, is owned by W. H. Nelson, of this city, and is credited with Foxhall, 2:19 $\frac{3}{4}$, and other speedy trotters.

The bay pacing gelding Hutchcroft, formerly owned by S. P. Clay, of this city, but now the property of H. C. Slagle, Emporia, Va., created some-

what of a sensation by winning a couple of races and being placed in others at the recent Baltimore meetings. He first started in the 2:28 class, pacing, landing the event with ease, after which S. Bosworth, of Newport News, Va., who entered the big gelding, was asked to identify him. Hutchcroft is eight years old and was bred by M. S. Baughman, Sanford, Ky. He was sired by Naboth, 2:19 $\frac{1}{4}$, dam by Harkaway, 2875. The gelding was brought here from Lexington, Ky., in November, 1902, by Shelby T. Harbison, who sold him at Joseph Lasetter's sale. Mr. Harbison stated that the horse had no record.

Etta Moore, the bay mare by Albert H., dam Medietta, by Happy Medium, owned by P. H. Wright at Island Home Stock Farm, Mulberry Island, Warwick county, Va., is now in the stud, and she is producing foals that promise to develop speed and race horse quality. This mare was purchased as a yearling by Mr. Wright and at four years she trotted to a record of 2:28 $\frac{1}{4}$, while later she made 2:19 $\frac{1}{4}$ pacing, but could do much faster at either gait. Among the produce of Etta Moore, owned at Island Home, are the roan stallion Ebliss, Jr., 5, by Eblis, son of Advertiser, 2:15 $\frac{1}{4}$; a yearling filly by Russell Rex; a suckling filly by Lord Warwick, and this season she was bred back to the latter horse. Eblis, the sire of Etta Moore's oldest foal Eblis, Jr., was formerly owned by Mr. Wright and gave promise of making a trotter and successful stock horse, but died before his speed was developed to any extent. Eblis was bred at Palo Alto Farm, California, and sired by Advertiser, dam the great brood mare Sprite, second dam far famed Waterwitch.

Robert Bradley's home bred race horse Boney Boy, the perennial performer and successful both on the flat and over the jumps, broke down recently in a steeplechase event at Chicago. Sired by Blitzen, The Iron Horse, dam Sue B., by Prosper, his pedigree does not extend far back on the maternal side, but at that he was a good racer and won money season after season, defeating during his career some of the best horses out on the flat, after which he was relegated to the cross country brigade and even there was able to earn his oats. The son of Blitzen is a chestnut gelding eight years old, and even now may round to and be patched up for a few more races.

One of the good steeplechase horses of the season is Grandpa, 5, by imp. Grandmaster, dam Phillipa, by imp. Darebin, who won recently at two miles at Gavesend. Grandpa was bred by A. S. Craven, Greenwood, Va.

BROAD ROCK.

Miscellaneous.

THE LABOR DIFFICULTY IN THE SOUTH—AN OPEN LETTER TO THE SECRETARY OF AGRICULTURE.

Editor Southern Planter:

I enclose you herewith for publication an open letter to the Secretary of Agriculture.

I am one of the correspondents of that department and it has occurred to me that perhaps the letter will be of interest to your readers. The idea that perhaps it would be wise on the part of the white people of Virginia to offer to the heads of negro families a considerable bonus to induce them to emigrate to the North was first suggested to me by Mr. Morelle Bruce, of the county of Charlotte, and the more I have thought of it the better I have liked it. Neither Mr. Bruce nor myself are animated by any feeling of hostility to the negro; on the contrary both of us entertain toward the race a kind feeling and we are desirous to promote their prosperity. At the same time we recognize the fact that our first duty is to our own race and the recent example of the change of labor made by Mr. Bruce on his Charlotte farm is of extraordinary significance and importance. I violate no personal confidence by making it public. It will be noted that I have alluded to it in my letter to the Secretary of Agriculture. When I wrote this letter I had no idea of having it published but it seems to me after reading it over that some of its suggestions are worthy of publication. My own experience of negro labor coincides with that of Mr. Bruce though I still have left a good old headman who keeps the keys of my corn house and indeed of all of my outhouses, and I would not change him for any man on earth. I mention this to show the sincere feeling of kindness which animates my bosom towards the negro race. At the same time I recognize the fact that for ten years and more negro labor on the farms in Virginia has retrograded to an extent which makes it almost practically useless. A change is needed and is inevitable. The suggestion of Mr. Lafferty about the introduction of Chinese coolie labor is worthy of thoughtful consideration. If not why not? We are confronted "not with a theory but a condition." It has become practically impossible to get domestic labor, such as cooks, nurses, washerwomen, chamber maids and house servants generally in the country, and it is almost as difficult to get efficient field labor. This state of things cannot last. Efficient labor is a factor essential to the successful pursuit of agricul-

ture; without it we are sure to lag behind in our progress as a State. Few States offer greater inducements than Virginia to the farmer; and in this connection I beg to congratulate you upon the valuable aid which your periodical has given to the successful prosecution of agriculture. Indeed I consider it second to no agricultural paper, anywhere in our broad land, and it seems to improve with age.

Albemarle Co., Va. CAMM PATTESON.

Howardsville P. O., Albemarle Co., Va.,

June 23, 1904.

To the Secretary of Agriculture, Washington, D. C.

Dear Sir,—I enclose herewith my monthly report and I invite attention to that part of it which notes the large decrease this year in the cultivation of Regie tobacco. Our lands are mainly adapted to the cultivation of rich dark heavy shipping tobacco and the price the last season, owing to the drastic monopoly of the American and Imperial Tobacco Companies was so low that its cultivation is likely to be abandoned, *as it does not pay the actual cost of cultivation*. The cultivation of the Oronoco tobacco on our high lands is likely to be continued, but in a much smaller way; this Oronoco tobacco is much lighter than the Regie shipping leaf, and is used by some manufacturers for both chewing and smoking products, but the price of that also is so materially reduced that in future the cultivation is likely to be confined to a very limited area. This is not altogether as bad as might upon first inspection be thought as hay and corn are being substituted in its place, together with the raising of cattle and other industries hereafter mentioned. And in this connection I beg that you will mail me any convenient literature you have relating to the *proper fertilizers for corn and hay and the preparation and cultivation of the land for both crops*. Our James river low grounds between Clifton Forge and Norfolk will produce on the best of it without any fertilizer fifty bushels of corn to the acre and in the fall we can make a small but fair profit by selling corn at the stack, shucked but not shelled at thirty-five (35) cents a bushel and, shelled corn in the spring at forty (40) cents a bushel. Our best James river low ground land with superior cultivation, that is proper seed and planting and continual stirring by cultivators, harrows and disc plows, without any fertilizer, can be made to produce fourteen barrels, that is seventy bushels to the acre and the crop with judicious cultivation, both high land and

low grounds, can be largely increased and made more profitable, and it is for that reason I wish you to mail me any convenient literature you have upon the subject for the use alike of myself and my neighbors, and I wish the literature relative also to hay, as it is (especially Timothy hay) more profitable than corn. We can, I think, make our meadow land produce two and one-half tons of Timothy hay to the acre with a very small application of nitrate of soda and bone meal, that is 5,000 pounds to the acre and it readily sells at an average of about \$14.00 per ton which owing to the small amount of labor it requires, gives us a very handsome profit. Our condition is being considerably improved by the voluntary emigration of the negro, who for ten years and more, has been a very unsatisfactory workman, in fact he has come to be a consumer without being, except to a small extent, a producer. Fortunately for the farmers and planters he is slowly but surely emigrating to the North where I suppose superior inducements are offered him. It has astounded me to find the immense superiority of white labor over negro labor. We thought at one time that we would be ruined by the emigration of the negro, but it turned out to be a blessing in disguise. His emigration was not caused by any bad feeling on the part of either race, on the contrary for more than ten years the feeling in this section between the two races has been very friendly; it seems to have been caused by the higher price offered by the public works and times for labor, and this was aided by a natural feeling of restlessness and a desire to travel. Wherever a white man of industrious habits has taken his place the result has, in many instances, been a doubling of the crops, and the proportion, singular as it may seem, has been sometimes greater. Some of us actuated by a sincere desire to promote the prosperity of our State and without any feeling whatever of hostility to the negro race, are seriously contemplating the idea of offering negro families a considerable bonus in cash to induce them to emigrate either to the North or to the cotton fields of the South. To give you a practical example of the benefit to be derived from the substitution of white labor I am credibly informed by Mr. Morelle Bruce, of Charlotte county, Virginia, that some four years since he substituted about 150 white men in the place of 300 negroes as laborers on his large farm of some 5,000 acres with the result that the first year the crop of corn was increased by white labor from 20,000 bushels to 35,000 bushels, and other crops in the same proportion. Mr. Bruce had lived some years west of the Mississippi river and upon his return to

Virginia, made the change. His father had been a large slaveholder, owning about 1,000 slaves or more, and 5,000 acres of excellent land in Charlotte county, Virginia. Mr. Bruce, after an experience of both systems of labor, white and colored, came to the conclusion that white labor was almost 100 per cent. more productive, and practice has proved the correctness of his theory which coincides with my own observation and experience. I mention it in this correspondence because efficient labor is a factor in the cultivation of crops, which is essential to success. The change in Virginia, from the old fashioned cultivation of tobacco and wheat (both of which in great part will soon be abandoned) formerly the two chief crops to corn, hay, cattle and the raising of mules and horses, together with fruit raising in many localities, has been very slow, but in the past three years it seems to have received an accelerated impulse of which I think it is proper that your Department should be informed, as it bids fair to increase our prosperity as a State, and in this connection it will be a favor if you will mail me any convenient literature you have relating to nitrate of soda, potash and phosphoric acid as it is the wish of the most intelligent class of our farmers to buy these ingredients *and mix them themselves at home*, as our experiments have uniformly proved that where we buy the ingredients *and do our own mixing* the result is in every instance within my observation a value of full twenty-five per cent, and more, over the highest class complete manufactured fertilizer. We wish to know where we can buy cheapest, nitrate of soda, (which contains the ammonia we need) and bone meal which contains the phosphoric acid and especially potash. These articles are not sold in Virginia at wholesale or retail except in Norfolk and Richmond, and at only one place in Richmond and on a very small scale and high prices in both places. The manufacturers of prepared fertilizers for obvious reasons do not desire the farmers to buy those articles and mix them themselves, as it militates against their profits. Any information you can give me on the subject will be of great practical value, and it will be thankfully received. Since we have discovered the significant and important fact *that all land both rich and poor contains exactly the same qualities with the exception of only three things, namely: (1) ammonia, (2) potash, (3) superphosphate of lime or phosphoric acid*, it has been of *commanding importance*, for it gives us the key to the situation and all that the farmer wishes to know is to find out by a chemical analysis which of these ingredients his land needs. *It is hardly possible to over-*

estimate the great value of this information. It has become as necessary for a farmer to be educated as a lawyer or physician and the study of agricultural chemistry is of great importance. I have no hesitation in stating that agriculture will eventually become one of the learned professions, and the success of the farmer will depend greatly upon his knowledge of the qualities of the soil that he cultivates. I beg that you will pardon me for the length of this letter; my apology for it is the importance of the subject.

Most respectfully and truly yours,

CAMM PATTESON,

Senator representing the 18th Senatorial District of Virginia, composed of the Counties of Buckingham, Appomattox, Charlotte and Fluvanna in the Virginia Senate.

P. S.—I read over this letter to an intelligent neighbor, who is a successful farmer, and he called by attention to the fact that I had neglected to mention the raising of sheep, (sheep husbandry) which has begun to increase in Virginia since the passage in 1903 of a "dog law" for the protection of sheep, by our Legislature. That law has been earnestly advocated by sheep raisers for many years and seems to work well. Experience in sheep raising seems to prove the fact that it is uniformly profitable where the flocks are small and uniformly unprofitable where the flocks are large. In England flocks of a thousand or more, I am informed, can be profitably raised; here from fifty to seventy-five seems to be the limit. I would be interesting to know the cause of the difference in the two countries. I cannot close this letter without complimenting your Department upon the signal advance it has made in the past five years. The improvement has been very great and it is second in importance to no department of our government and with every year it appears to broaden and become more and more valuable. The State of Virginia for the past quarter of a century and more has moved slowly in the direction of intelligent agriculture, which I am satisfied arose in great part from its system of labor, to which I have alluded. Since the commencement of the gradual abolition of that system and the introduction of a new regime it has made a new departure and soon will grow with leaps and bounds, for kind nature has blessed it with a good climate and a fertile soil, and above all an homogeneous Anglo-Saxon population.

CAMM PATTESON.

Buckingham Co., Va., June 23, 1904.

FARMERS' CO-OPERATION.

Editor Southern Planter:

Dear Sir,—Believing that your paper is probably read by more practical farmers than any other with a circulation in Virginia, I am emboldened to call your attention to an editorial in a recent issue of the "Fruitman's Guide," the official organ of the "National League of Commission Merchants," in which the "Southern Produce Company" is attacked in the following uncomplimentary terms:

"What was more regrettable in the history of last year's business, than the way in which the merchants of the various cities fell victims before the *bulldozing* and *buncoing* tactics * * * of that association of Norfolk shippers known as the "Southern Produce Co.," who forced down the rate of commission on Norfolk stuff from 7 per cent to 6 per cent. with a rebate of 1 per cent. to go back to the Association for its own purposes, the receivers thereby paying for a grindstone on which a knife might be sharpened to be used to cut their own throats."

The "Guide" then goes on to show that the whole movement is a wrong one for the shippers. Refers to the shipper as a "rate cutting devil" and finally urges the commission merchants to "stand together, shoulder to shoulder, and insist on the restoration of the old 7 per cent. rate. To adopt the motto of Dumas' Three Guardsmen, "All for one and one for all," and so to bring the *shipper* to his *marrow bones*.

Now, Mr. Editor, was there ever put in print a greater piece of *rot*? Here is a man who sets himself up to give advice to a body of men doing business amounting to the hundreds of millions, and he advises them absolutely to quarrel with their bread. Advises the agents to combine against their principals and bring them to their marrow bones. But, sir, the fight is not against the cut in commission rates, brought about directly by the Southern Produce Co. near so much as it is against *any organization of farmers* for their *mutual protection and advantage*.

Every branch of business with which the farmer has to deal is strictly organized. Why not the farmers. Why is it that as soon as the Norfolk shippers seek to form an organization—on strictly business principles—for their advantage, and the better handling of their business, that forthwith a howl goes up and they are "bulldozers" and "buncoers." No such terms were used against organizations in other lines of business. The groceryman, hardware man, builders, plumbers all have their organizations, why then this outcry against the truck farmers of the Nor-

folk section? There is but one answer. The farmers of Eastern Virginia and North Carolina have been absolutely unorganized and have been, and are now regarded—by certain people—as the legitimate prey of every “beast of the field.”

The formation of the Southern Produce Co. is a starting point. If other sections should “take the hint” and “fall in line” those people, who have been able, heretofore, to fatten on the farmers, because they were unorganized, see the end of their “picnic” hence these tears. Everybody realizes the wonderful things that might be accomplished by a combination of the farming interests of this country, except (oh the pity of it) the farmers themselves. While feeding the world they, as a class, are poorly fed. While drawing for others they know what it is to thirst. Numerically the strongest, they suffer to be ruled.

Why is it? Because they never have known their strength; they are not organized.

The one word in the English language more potent than any other for the emancipation of the farmers is *organization!*

Preach it, Mr. Editor, call attention to the cases (few and far between) where the farmers have put it into practice, ding it into their ears till they must put it into practice, and future generations of farmers, enjoying the benefits of organization, shall rise up and call you “blessed.”

Nansemond Co., Va.

FRANK WRIGHT.

THE ENGLISH SPARROW.

Editor Southern Planter:

There is so much prejudice against the English sparrow that it seems almost hopeless to combat it. I have written much in defence of the sparrow and I do not intend to repeat it. Nevertheless, I desire to state one fact.

About fifteen years ago I took possession of a small farm in Northampton county, Va. There was a small flock of sparrows there at the time which has not perceptibly increased. There were but few of our native birds there at the time, but now the air is resonant with their songs. I cannot begin to enumerate them, but the principal recruits have been robins, catbirds, mocking birds and wrens.

I attribute the increase of the native birds mainly to increase of trees which I planted, to cultivation of the soil before uncultivated, and to continual occupancy of premises, assuring birds protection against their natural enemies.

So much for the statement that English sparrows

drive other birds away. One ounce of fact is worth a pound of fiction.

To change the subject: In December before last I planted round (Irish) potatoes and they matured about the same time as those planted in March subsequently, though they only received one-half the quantity of fertilizer used on the last planted. I would recommend one-half the usual quantity applied when planting and the other half in the spring when they are barred or shucked off, just as is usual with cabbage.

Washington, D. C.

GEO. C. HENNING.

MR. CLARK'S GRASS EXPERIMENTS.

Editor Southern Planter:

I am now experimenting to learn just what time is best to use commercial fertilizers for hay production. I have been using a grass fertilizer at the time of seeding which is, so far as I know, all right, but I am trying to learn whether there is any better time when, or quantity to use for what I call my spring dressing, than I have been using for years. Last year I made a special effort to make three crops upon a quarter acre section of my grass field, a section that has been intensely cultivated for years before seeding. For the first crop I put on at the rate of 650 pounds per acre of the spring dressing made from one-third bone, one-third muriate of potash and one-third nitrate of soda; for the second crop, 250 pounds; third crop, 250 pounds of the same spring dressing, making in all at the rate of 1,150 pounds of the above compound to the acre. My last year's report from this quarter acre section said: “The most remarkable result will be shown this year, 1903. From a quarter acre section where the first crop cut was over four feet in height and weighed 2,471 pounds; second crop cut this year from the same field was over three feet high and weighed 2,240 pounds, making seven and one-half feet in height. Each crop was full headed and blossomed. The third crop did not blossom, but weighed 1,750 pounds, or at the rate of three and one-half tons to the acre. The total weight of the three crops from this quarter acre section this year was 6,401 pounds, or at the rate of 25,644 pounds per acre, and a total growth of over nine feet. This quarter acre section at \$16 per ton produced hay at the rate of \$136 net profit per acre. The general average of my field for eighteen years has given a net profit of over \$50 per year per acre, hence I say we can, if we will, make money in grass culture.”

The cost of the fertilizer applied on this quarter

acre section was less than \$2 per ton, as you will notice, the rate obtained was 25,644 pounds per acre, which would be quite a little less than one dollar per thousand pounds of dry hay. The first of May this spring, 1904, I found double the growth that there was on the general field where I had put on the fertilizer in my usual way, for that reason thus far I have put on no fertilizer upon that quarter acre section this year. June first I find the following results: On the quarter acre section the average height of grass is two feet, a thick stand, extreme height when drawn up 33 inches. A section of it cut and wound in a roll lengthwise, the balance in the weight is 12 inches from the butt of the roll. Applying the same test on the general field, which has had 650 pounds of fertilizer per acre this year. I find on June first the general height 22 inches, extreme height 31 inches, balance of weight 11 inches from butt, so that at this writing there appears to be an advantage in using what I call the spring dressing in the fall, perhaps we may find that it would be as well to use a part in fall and a part in spring. Of course, one trial determines nothing. I am going to keep on if my life is spared, and report my findings. The grass the writer refers to is Timothy and Red Top. Orchard grass and clover will be ripe in a week, dead and unfit for hay long before the Timothy and Red Top is in blossom.

To all who will send me a 2-cent stamp I will send a circular that will tell them what I have found in the last eighteen years in grass culture, and later I will tell them what other facts I find. My experiments are free to all except the cost of postage.

Higganum, Conn.

GEORGE M. CLARK.

THE NEEDS OF THE SOIL.

Editor Southern Planter:

It is distressing to travel over our county (Henrico) and see how steadily it is going back in fertility for the want of humus and lime. Some say they can't afford to buy and haul manure from the city. They are not compelled to do that. It is much cheaper to sow rye, buckwheat, peas or other fallow crops, and plow them in than to haul manure if you had it. Rye sown in the fall and plowed down in May will help greatly, then sow peas on that fallow and it will help still more. The peas should be plowed down in the fall and a few bushels of lime be put on and dragged in. Some say they cannot buy peas at \$2 per bushel, then these men should raise them. Plant a few acres in drills three feet apart in the

spring or early summer. Work them a few times with a cultivator and pick the peas when ripe, they will then have seed and to spare. It won't pay to plow and cultivate land without humus in it. There is no use in sowing grass seed on a poor, unlimed soil; it is throwing money and labor away. Try to improve a few acres at a time with peas, crimson clover, rye and Vetches, and see if you cannot do better. You cannot work your horse without feeding him, neither can you profitably keep working your land and not feeding it. Work less land and feed it better.

Henrico Co., Va.

F. GUY.

SIMPLE CURE FOR MILK FEVER.

Mr. D. C. Dilworth, Spokane, Washington Territory, writes: "Dr. James Bullivant, of this city, cured a very bad case of milk fever a few days ago by pumping the cow's udder full of air with a common bicycle pump. The cow was given no medicine of any kind; was lying flat on her back unconscious, and after being inflated was on her feet eating in four hours, and is now giving a good flow of milk. It is an easy remedy to try if the oxygen treatment is not within reach."

Mr. W. H. Ladner, Delta, British Columbia, writes the "Farmer's Advocate" that his farm foreman has cured several very serious cases of milk fever by inflating the udder with air, by means of a bicycle pump, the cow in one case perfectly unconscious and badly swollen. The oxygen treatment is certainly the safest, as udder infection should by its use be guarded against, but where the equipment for administering it is not available the bicycle pump is all right if the apparatus used is first dipped in boiling water, or some disinfectant.—Farmer's Advocate.

ROTATION AS A FACTOR IN GROWING IRISH POTATOES.

Editor Southern Planter:

Here is something against the "rotater" and in favor of the "tater" theory.

Mrs. Bettie Sutherland, of this neighborhood, has the largest, healthiest and most vigorous potatoe vines I have seen this season, on a piece of ground that has grown potatoes every year for the last forty years and growing the same variety of potatoes every year, the old White Mercer, and has never failed, nor has ever been troubled with blight or bugs. This fact seems to be up against the theory of changing seed and ground every year.

J. N. FARIS.

Albemarle Co., Va.

ANGORA GOATS.

Having had a good many enquiries recently as to Angora goats and especially as to their adaptability to our climate and conditions we take the following from the National Stockman, being the views of a Virginia goat keeper on the subject:

A subscriber of Ashland, O., wants to know "How to raise and care for Angora goats, and what profit there is in them." I have been breeding Angoras for ten years with fair success and think from experience that I know at least something about them. In the first place any one who is a successful sheep raiser will have no trouble in raising Angora goats, as their habits are much alike. The Angora must have a good shed or shelter during cold fall or spring rains. Unlike a sheep he does not have to be driven to a shelter out of a storm, but will immediately seek shelter when the storm approaches. A rain will drench the Angora to the hide, its fleece does not shed water like a sheep's fleece, therefore the importance of having shelter for them, at any rate in the latitude of Northern Virginia.

I have my does to kid in April if possible. Have never had any trouble to have does own their kids. They usually kid during the day. We immediately put doe and kid in shed or yards, and keep kids there and turn does out during the day for two or three days before letting the kids follow. A kid will endure more hardship than a lamb.

The Angora's natural food is browse (brush, weeds, etc.). I find they will thrive much better where they can get plenty of brush than on grass alone, and they must be out where they can have plenty of exercise, as they will not do any good in close confinement.

As to fences, as a rule Angoras are not jumpers, but they are "corkers" to creep, much like a hog. Of course a woven wire fence is the ideal goat fence (as it is for all stock) but a board fence, or a stake and rider old-time fence, or a common rail fence without locks, will hold them.

As to profit, if you have brush or filthy land to clean up they will do it to perfection and will more than pay for their keep for so doing, and you have the fleece and increase clear, but if you have to keep them strictly on grass I think they are no more profitable than a good flock of sheep. An enquirer writes:

"I live where there is laurel. Will they or their young ones eat it and will it kill them like it does our sheep?" Yes, just the same.

Mr. Harold Bingess, Lafontaine, Indiana, writes: "I would like to know if they will eat the sprouts in the woods and not destroy the timber." No, they will not destroy the large timber, but will frequently peel saplings from two to four inches in diameter and kill them. They must be kept from fruit trees and all shrubbery. I find that the fleece (mohair) on a well-

bred Angora averages in price about the same as a sheep's fleece. I sell my wether kids when selling to a dealer at the same price as lambs. I have received so many letters lately from parties from all sections of the country asking information about Angora goats that it is impossible for me to answer all of them, but think the above answers most of the questions. I am glad to see so much interest manifested in regard to the raising of Angora goats, for they have come to stay, and in localities that are suited to raising of Angoras there is nothing that is more profitable.

B. F. RICHARD,
Shenandoah Co., Va. in National Stockman.

PHOSPHORIC ACID FOR WHEAT.

Editor Southern Planter:

Last fall when sowing my wheat on the farm I drilled in with the seed one hundred pounds of acid phosphate per acre. Some places were left without any fertilizer. This fertilizer analyzed 14 per cent. of available phosphoric acid. The amount used was rather small, I admit, but my object was to bring the crop on early, avoid the rust, and ripen the crop with large, plump grains. The land I was seeding was rich enough for wheat, but it was rather low and moist. When this land was seeded previously the crop was usually much damaged by rust, and consequently the grains were not plump. Now, for the results. My crop is beginning to ripen beautifully, the heads are very large, there is no appearance of rust, and the grains seem very plump. While the crop is rather thin on the land, owing to the extremely unfavorable winter, still I am convinced the fertilizer will pay more than double what it cost me. In fact, where no fertilizer was used, the crop is not half so good. The heads are very short and the wheat is at least one week later.

I have secured a good stand of grass on most of the wheat land. I have no large bill to pay for potash and nitrogen. In fact, I have been convinced long since that our clay limestone lands of Southwest Virginia ordinarily do not need nitrogen and potash near so much as phosphoric acid. I believe, from experimental work, that nitrogen is often a disadvantage to wheat, especially on low, rich bottom lands. It makes the crop rank in straw growth, makes it later in maturing, and thus renders it much more susceptible to the attacks of rust.

It has long been known that phosphoric acid goes into the seed and hastens the maturity of the crop. But how small is the per cent. of our farmers who know the effects of fertilizing ingredients upon crops?

Too many are influenced by the brand or name. Frequently our fertilizer bills could be cut down one-third if we were guided in our purchases by the needs of our soils, and still we would have just as fine crops. Now, at harvest time, is a good opportunity to learn valuable fertilizer lessons. If we can cut our fertilizer bills down one-third and grow just as fine crops, we in Virginia can save enough money to buy all our grass seed. The money spent for nitrogen to produce general farm crops had better be spent for clover seed, or cow pea seed. Farmers, as a class, must study the fertilizer problem more closely. Wheat, especially, is one of the least paying crops we grow, still we must grow it. If we can cut down the acreage, increase the yield and lessen the expense the saving will be enormous to the State.

Montgomery Co., Va.

R. H. PRICE.

HAWKS AND CROWS JUST ONE MORE TIME.

Editor Southern Planter:

I assure you that it is not my intention to become tiresome to either you or your readers in the discussion of the benefits or financial disadvantages of the proposed domestication of the hawk or crow. The compilation of statistics from the Agricultural Department, Washington, D. C., has made me stronger in the faith that the hawk merits no place in the domicile of the farmer. The crow seems to have been somewhat ignored in these statistics of Uncle Sam. Was this on account of his color?

On reference to the examination of the crops (crows) of the three species of hawks known as "chicken hawks" by the Agricultural Department, I find that out of 562 crops of red-tailed hawks, fifty-four contained poultry, fifty-one other birds, and forty-seven insects.

Of the crops of 220 red-shouldered hawks examined, three contained poultry, ninety-two insects.

Out of 103 crops of Cooper's hawk, twenty-four contained poultry or game birds, fifty-two other birds, two insects.

You will observe, Mr. Editor, that I have not mentioned all of the amphibia or mammalia, etc., contained in the crops of the hawks examined, because your readers who have much interest in protection of poultry and insectivorous birds can easily refer to page 339 of the May issue and have full report, and thus decide on the wisdom or unwisdom of protecting hawks and crows rather than the juicy little broiler and the active insectivorous innocents mentioned above.

A few conclusions reached from the report of the examinations made by the Agricultural Department will terminate my observations.

When we consider the indefatigable efforts of farmers now to protect their poultry from hawks and crows, and still they are financial losers, what greater proportion of loss would necessarily follow if they attempted to domesticate or protect the voracious pests?

Even now while I write I hear the report of the exasperated farmer's breech loader reverberating through the forests, he making earnest effort to bring to mother earth the roushish crow or hawk, which, like "Uncle Ephraim" when his old woman was hurling accusations at him for stealing the judge's pig—protested that he did not steal the pig, but just took him without the judge's consent.

I take it, Mr. Editor, that when the crows and hawks have been domesticated or protected and with impunity can have access to the poultry yards of the country, they will soon lose desire for lizards, bugs, skunk, etc., and begin to devote all their gustatory energies on the juicy broiler, emphasizing in this the propensity of man to select the most palatable and reject the insipid.

By further reference to the Agricultural report it can be easily seen that the number of insects destroyed by the clumsy hawk is by far in inverse proportion to the number of insects which would have been destroyed by the active little birds which were killed by the hawks. We owe protection to the little insectivorous birds and their eggs as well as to the poultry of the industrious farmer's wives, and crops of the industrious farmer. This protection must come by efficient legislation as well as by destruction of those birds of prey whose crops (crows) on examination prove them to be a menace to the interests of the agriculturist by their destruction of insectivorous birds.

Now, Mr. Editor, for your courtesy and patient indulgence I promise not to mention crow or hawk in your columns again.

GEO. T. SNEAD.

Princess Anne Co., Va.

CHICKEN CHATTER.

Feed green food daily.

Overfeeding means death to poultry.

Keep the vessels and quarters clean.

Plenty of exercise often prevents feather pulling.

Bran and clover mixed is an excellent food for the fowls.

THE
Southern Planter

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J. F. JACKSON,
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BUSINESS MANAGER.

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Rate card furnished on application.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

We wish to impress upon our advertisers the necessity of having ALL advertisements, no matter whether new or change of copy, in our office by the 24th of each month. Advertising forms close on the 25th. We are compelled to leave a number of advertisements out of each issue because they are received too late.

TRIAL SUBSCRIPTIONS.

Hundreds of our regular subscribers tell us that "every farmer in the South should read the SOUTHERN PLANTER." We think so too. Especially when the cost is so trifling. But it is our experience that the cost has little or nothing to do with the matter. Every man, woman or child in this section can muster the necessary 50 cents. But a great number of farmers do not read any farm paper. How they farm without one, we do not know. These are the people we want to interest. If we once get them to reading the SOUTHERN PLANTER we have little trouble in keeping them at it. We are sure to give them their money's worth and a great deal more. If they are dissatisfied and tell us so, after reading the journal for a year, they can have their money back. Now isn't that a simple, straight, honest, store proposition?

Any person, not a subscriber, can have a three months' trial subscription for 10 cents. A good many hundreds ought to come in at this rate. The next three issues will be a fair sample of the yearly volume excepting our usual Holiday Number which is always worth the price of the entire year.

One-half of the whole number of sheep in the world are dipped in Cooper Dip year by year. The makers prove this by the amount of dip that leaves their factory and the number of sheep known to exist according to the official records.

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Sown at the last working of the Corn or Cotton Crop, can be plowed under the following April or May in time to plant corn or other crops the same season. Crimson Clover prevents winter leaching of the soil, is equal in fertilizing value to a good application of stable manure and will wonderfully increase the yield and quality of corn or other crops which follow it. It also makes splendid winter and spring grazing, fine early green feed, or a good hay crop. Even if the crop is cut off, the action of the roots and stubble improve the land to a marked degree.

Write for price and special circular telling about seeding etc.

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Wood's Descriptive Fall Catalog, ready about August 1st, tells all about Farm and Vegetable Seeds for Fall planting. Mailed free on request.

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Axle Grease Best in the world.


Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. Get the Genuine. FOR SALE BY ALL DEALERS.

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and other INSECTS killed by
GOOD'S

Caustic Potash Whale-Oil Soap No. 3

Endorsed by U. S. Dept. of Agri. and State Experiment Stations. This soap is a Fertilizer as well as an Insecticide. 50-lb. kegs, \$2.50; 100-lb. kegs, \$4.50; half barrel, 270 lb., 37c per lb.; barrel, 425 lb., 31c. Send for Booklet, JAMES GOOD, Original Maker, 939-41 N. Front Street, Philadelphia, Pa.

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Saves Time, Labor and Money.



THE RED RIPPER is the strongest, simplest and most durable hay press on the market; requires only one horse to operate; capacity, 15 to 20 full size bales (75 to 100 pounds) per hour. Costs less than any other good press and does more and better work than most presses costing five times as much.

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WRITE FOR PARTICULARS. CATALOG, HAND & HORSE POWER PRESSES, FREE.

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which is in a class by itself.



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Also made by the Duplex Manufacturing Co., South Superior, Wis.

WITH THE ADVERTISERS.
The Spangler Mfg. Co., York, Pa., start their Fall advertising campaign with an interesting card in another column. Their well known low down grain and fertilizer drill is the offering this month.

A choice Red Poll bull at a very reasonable price is offered by H. K. Foster, Blacksburg, Va.

Among the new ads in this number will be found that of the Safety Buggy Co., Richmond, Va. This company is the successor to the buggy department of Benj. T. Crump & Co. of the same city. Our readers are invited to call at the company's depository and inspect its 85 styles of vehicles before purchasing elsewhere.

Parties desiring a farm manager had better refer to the ad of "B" in another column

H. A. S. Hamilton & Sons, Shadwell, Va., have an offering of choice "Hill Top" stock. This firm has made an enviable reputation and now that they have removed and have with them their same old stock, we have no doubt but that numerous old customers, as well as new, will look up their offering.

Italian bees and bee supplies can be had from J. E. Thomasson, Bumpass, Va.

The Stratton & Bragg Co., Petersburg, Va., resume the season's advertising with a half page ad elsewhere. In addition to handling all kind of hardware and farm implements, this company is special agent for Heebner & Sons' peanut pickers and threshers.

The Bullfield Farms, Doswell, Va., are offering 90 ewes and grade rams, also about 20 head of grade Shorthorn cattle. Look up the ad on another page.

Strawberry Hill Poultry Yards are new-comers in this issue. Eggs for hatching from aristocratic strains of birds can be had at very reasonable prices.

Fashionably bred Berkshires are offered by H. W. Fugate in another column. We invite the attention of our readers to the ad.

Lee's Prepared Agricultural Lime, Plain Oyster Shell Lime, No. 1 Wood Burnt Lime are offered by A. S. Lee & Son, Richmond, Va.

Samuel Hairston, Wenonda, Va., has an ad of his well known Oak Hill Farm. Farmers desiring pure bred stock at right prices should look up his ad.

The farm department of the V. P. I. is offering some choice Dorset rams. Agricultural Lime can be had of T. O. Sandy, Burkeville, Va.

Finely bred Jerseys are offered by Woodside Farm.

Elizabeth College, Charlotte, N. C., has an attractive card in another column. Send for its handsome illustrated catalogue and prospectus.

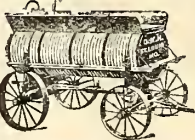
L. G. Jones, breeder of Essex and Poland China pigs and Hampshire and Southdown sheep has an ad in




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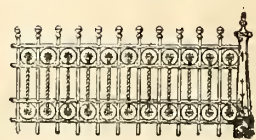
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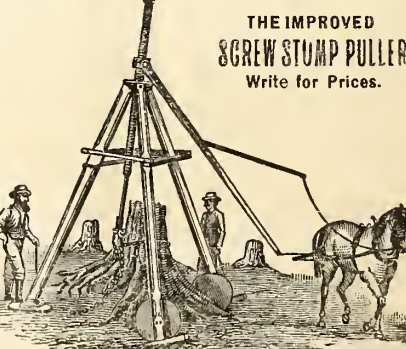
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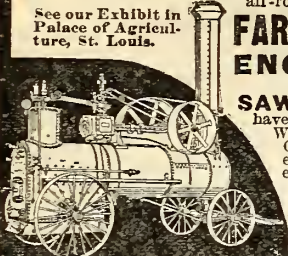
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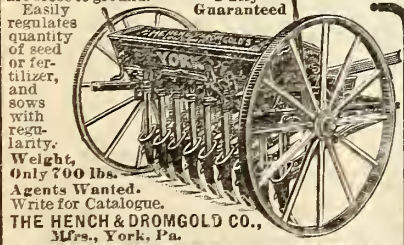
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this issue. Satisfaction to every customer is his motto. The Smith Endless Apron Manure Spreader is advertised in this issue. Always mention the SOUTHERN PLANTER when corresponding with advertisers.

MAGAZINES.

The Century for July is primarily, but by no means wholly, a fiction number. The opening article by Sylvester Baxter describes "The New West Point" as it is to be, with impressive drawings, done under the supervision of the architects, one of which, printed in color, is a frontispiece. This article will be a revelation to the public of the superb picturesque and monumental character of the constructions now under way.

The Far East comes in for special attention: the theatre of war is described in an illustrated paper on "Manchuria," written by the present United States Consul at An-Tung, Mr. James W. Davidson, from a special trip of inspection made last fall; the Japanese Constitution is the subject of a paper by one of its four framers, Baron Kaneko (a Harvard LL. D.), under the title "The Magna Charta of Japan," and Andrew D. White contributes a paper of recollections of "Russia in War Time," recording his humorous and stirring experiences as attache at St. Petersburg during the Crimean War.

Henry R. Elliot under the title "The Most Popular Book in the World" gives curious facts concerning the publication and distribution of the Bible. Apropos of St. John's Eve (June 23) Maud Howe writes of "The Evil Eye and Witches' Night in Rome." Charles de Kay describes "An Important Art Treasure of New York," namely, the Etruscan chariot recently acquired for the Metropolitan Museum, an object of special interest to visitors to New York.

The fiction, nearly all of which is illustrated, includes further installments of Dr. Weir Mitchell's piquant and daring "The Youth of Washington," told in the form of an autobiography, and Jack London's vivid and adventurous "The Sea-Wolf." The nine complete tales are "The White Feather," by Margaret Deland, with a literary setting and a novel motive; "The Heart-Breakers," a flirtation story by Bertha Runkle, author of "The Helmet of Navarre;" "Miss Clegg's Adopted," by Anne Warner, a humorous rural sketch by the author of "The Marrying of Susan Clegg;" "The Ancestry of Irene," another story of the Nevada Madigans, by Miriam Michelson—in which a romantic young girl is seen in search of a father; "The Conspiracy of Krass," by Robert Haven Schaufler—a tale of hypnotism; "Miss Nigger," by Rose Young, a story of a white child and a nurse, and their superstitions; "Floyd

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CLEAN, SAFE, DURABLE AND COMFORTABLE

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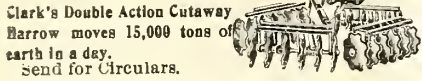


Clark's Tools for Large Hay Crops



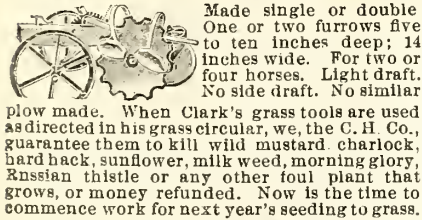
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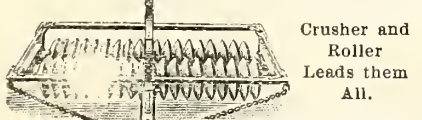


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The Best Power after all is steam power. The best example is here shown in our **LEFFEL ENGINES** with Stationary Tubular Boiler. This outfit contains all the Leffel superiority and efficiency. Easy steamers, little fuel, easy handling, always in order, long lived, safe, etc. This style made 10 to 40 H. P. Many other styles of engines and boilers for all purposes. Get free book "Power Economy and Efficiency." **James Leffel & Co.** Box 134 Springfield, Ohio. So. Sales Agt. Richmond, Va.

and the Archduchess," a romantic tale by Olivia Howard Dunbar; "In the Nature of a Hero," a fire department story by Harvey J. O'Higgins, and "The Rich Widow of Spanish Town," a sketch of California, by Gouverneur Morris.

The unique feature of the July St. Nicholas is the beginning of a serial story for boys, translated from the Japanese for St. Nicholas, and written by one of Japan's most popular novelists, Gensai Murai. The story, which will run through several numbers, is entitled "Kibun Daizin"; or, From Shark-Boy to Merchant Prince, and is founded upon the life of Bunzayemon Kinokuniya, a Japanese merchant of the eighteenth century, whose pluck, wisdom and enterprising spirit made him one of the most prosperous and respected men of the time. The opening chapters are attractively illustrated by Varian.

This July issue of St. Nicholas is a patriotic number, and the Fourth of July spirit has been well carried out in story, rhymes and pictures. "A Day with Hudson Maxim" is a timely and interesting account, by Joseph H. Adams, of the city home of this noted American inventor and of his work.

The July number of Lippincott's Magazine is fertile in fiction for lazy days. Its opening pages are covered by "The Love Affair of a Princess," by Lafayette McLaws, a rushing romance filled with gallantry, love, and life at a quick pace.

Following the novelette there are nine stories of varying lengths and subjects: Elizabeth Duer contributes a most engaging one called "The Court of Pan." Edward Boltwood's story, "The Lazzaparoola," is the very cleverest and most amusing cow-boy episode which has appeared in print. A good summer story by Cyrus Townsend Brady, entitled "The Baby Goes A-Fishing," is suspected of being a bit of personal reminiscence. Bertha H. Lippincott, the author of "Chevrons," writes an entertaining tale of the right man at the wrong dinner-table, and an out-of-the-common point is made by the debutante winning out with a rival widow. Something new about the finding of "Moses" is told by Ella Middleton Tybout under the title of "Moses, Jr." It is bright and humorous. A sweet background for the livelier themes is a story by Mabel Nelson Thurston called "The Emancipation of Lydia Duroe," which is delightful in its faithfulness to human nature. "A Thread of Scarlet," by Jennette Lee, sounds the single note of tragedy in the whole number. "A Delayed Heritage" appeals to everybody who has wanted one thing very much for a long time—and at last grasps the dear desire. Its author is Eleanor H. Porter. A new sort of ghost-story is that by Bertha M. Bower, entitled "The Ghost in the Red Shirt." Its underlying love accompaniment is captivating.

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Eclipse Hand Separator,

As good as new, and doing perfect work, for a Red Poll, Shorthorn or Angus Heifer calf. Apply to GEO. W. BRYAN, Scotland Neck, N. C.

ries," Parts III., IV., and V., are no less charming than last month's. The pathetic incident of a little Irish waitress at a Paris cafe reads like fiction.

The poems this month are by Florence Earle Coates, Richard Kirk, Aloysius Coll. S. R. Elliott, Ella Heath. Francis Halley Newton, and Emma P. Seabury.

Visitors to the St. Louis Exposition will want the July Woman's Home Companion because it is such an interesting souvenir of the fair. Frederick Smith tells of "A Little Journey Round the St. Louis Fair" and about adventures on The Pike, while Arthur Hoyt describes the opening day. A feature of especial timeliness is "Celebrating the Fourth of July in Uncle Sam's New Possessions." The pictorial features are the "Wash-Day of All Nations" and "Sports on an Ocean-Liner." The Editors announce that Margaret E. Sangster, so dear to the hearts of all American girls, will henceforth conduct a department for women in the Woman's Home Companion. There is plenty of lively mid-summer fiction, and many of Miss Gould's excellent fashion suggestions. Published by The Crowell Publishing Company, Springfield, Ohio; one dollar a year; ten cents a copy.

Following the plan which St. Nicholas has carried out for several months, the July issue has an instructive article designed to present valuable facts in a way entertaining to both young and old. "A Day with Hudson Maxim" is the title of Joseph H. Adams' sketch, which will tell many interesting details of the great inventor's life and work. Hudson Maxim's residence is in Brooklyn, where a visitor finds him as much at home among his high explosives as his cook is in her kitchen. Mr. Adams tells, among other things, of being invited to lunch on Welsh rare-bit cooked in a chafing-dish over a lamp filled with—not alcohol but nitroglycerin.

AMERICAN BOY DAY AT THE ST. LOUIS EXPOSITION.

The St. Louis Exposition management wisely determined to recognize American boys by setting apart a special day for them at the Exposition. The day selected is July 5th, and the program and arrangements for the day are in the hands of William C. Sprague, editor of The American Boy, of Detroit. The program includes athletics contests in the stadium between the boys of the public schools, in which public school teams are entered from Chicago, New York and other cities, and opportunities will be given for individual entries. From 2:30 to 4:30 in the afternoon public exercises will be held in Festival Hall, the central attraction of the grounds. It is expected that three thousand boys will take part in a unique programme, consisting of orations, recitations, music, etc., by talented boys from various parts of the country, the reading of messages from

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No. 16.—130 acres; 20 in timber, balance cleared. Good land. In good condition. Comfortable 4 room house. Fine water. Five miles from station. Fronts on Pike. Price, \$20 per acre.

No. 22.—225 acres. Two and one-half miles from station. Forty acres timber, balance cleared. Fine land. In good condition. Good 7 room house. Large barn, etc. Price, \$20 per acre.

No. 23.—50 acres truck and fruit farm. Price, \$2,650.

No. 25.—175 acres. Grain and Blue Grass farm in Rockbridge county, 1½ miles from Buena Vista. Fine condition. Nice home. Price, \$5,300.

No. 28.—516 acres. Grain and Blue Grass Farm, 1½ miles from Buena Vista. First class condition. Handsome home; all modern equipments. Price, \$16,000.

No. 34.—50 acres. Truck and fruit farm, 12 miles from a Washington, near railroad station. Excellent condition. All improved selected fruit. Price, \$5,000.

No. 30.—50 acre farm in Loudoun county, 3½ miles from rail. Price, \$1,600.

No. 33.—400 acre farm in Loudoun county. Good grain and grazing land. Price, \$7,500.

No. 35.—400 acre farm in Loudoun county. Excellent grain and grass land. Modern improved buildings. Price, \$8,000.

No. 36.—275 acre farm in Fairfax. Fine quality of grain and grass land. Good buildings. Refined and educated citizens. Price, \$7,000.

See April and May issue of SOUTHERN PLANTER for description of the above farms, and write for my farm list and full information.

W. E. MILLER,
HERNDON, VA.

President Roosevelt and the governors of all the States and territories, music by one of the Exposition bands, and by Professor H. B. Roney, who will preside at the great organ—the largest in the world. Three thousand boys will be heard in chorus singing patriotic songs. There will be an address of welcome by President Francis, a response by an 11-year-old boy, and a salute to the flag. Prizes will be awarded to boys competing in the contest for the best poem on the subject, "The American Boy," and the best song that can be sung to the tune America. At 4:30 o'clock the boys will form in procession and march to the Pennsylvania building, where they will pay their respects to the old Liberty Bell, and a 10-year-old boy will crown the bell with a floral offering on behalf of the boys of America. At 5:30 o'clock a reception will be given the boys in the Michigan building. It is fair to say that every boy in the country who can be at the fair on July 5th will try to be there, as the occasion will be one long to be remembered.

CATALOGUES.

Elizabeth College for Women, Charlotte, N. C., 7th annual catalogue with announcements for 1904-1905. This is a finely illustrated catalogue of an excellent institution with a fine staff of professors and teachers.

Air-cooled power and pumping engine, for gasoline or gas, Chas. G. Blatchley, Swanson Street, Philadelphia, Pa.

Standard Hydraulic Pump Co., Shenandoah Avenue, Roanoke, Va.

We acknowledge with thanks receipt of invitation to attend the laying of the cornerstone of the Auditorium group of buildings at Oread, Md., the great institution now being established there on a farm of 2,000 acres where girls and women will be taught domestic science and boys and men agriculture, industrial arts and commerce. The motto of the institution is "We learn to do by doing." President Perky has devoted a large fortune to the establishment and support of this unique institution.

PAMPHLETS.

Holstein-Friesian Cattle. Salient points of their history and characteristics and of their development and registration under the rules of the Holstein-Friesian Association of America. S. Hoxie, Compiler and Publisher, Yorkville, N. Y.

SOUVENIRS OF W. A. WOOD MACHINES.

The W. A. Wood M. & R. Machine Co., of Hoosick Falls, N. Y., send us a couple of souvenirs which they are distributing at the World's Fair. One is a beautiful pamphlet, an artistic fac simile of their Paris Gold Medal, and the other a gilded medal souvenir of the St. Louis Fair.

THE OAKS FOR SALE.

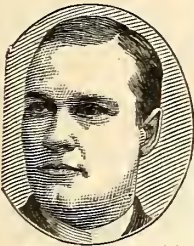
Being advised by my physician to seek a drier climate on account of my wife's health, I offer "The Oaks" for sale; situated 1-2 mile from depot on main line of N. & W. R. R., 1-4 mile from corporation limits, and contains 145 1-2 acres; dwelling house has six rooms and pantry; situated on an elevation commanding a fine view of the Peaks of Otter (12 miles), town and surrounding country; and surrounded by a magnificent grove of stately oaks, about 10 acres in original growth of large oaks. Land is gently rolling, most of it in grass; three elegant never failing springs, one very bold; plenty of fruit for home use; there is also a 2-room tenant house and large barn and corn crib. There are about 45 acres well set in Clover, Timothy, Alsike and Alfalfa, (about 4 acres in Alfalfa); half of it two years old; cut it five times last year and it now, 10th of May, stands 12 inches, after being frozen down 1st of April. This is strictly Alfalfa land and there are 25 acres that will be ready to seed to Alfalfa this summer; 40 acres seeded to Alfalfa will be worth more than I ask for the whole farm, as hay is now selling here for \$18.00 per ton and has not been less than \$14.00 for two years. There are 7 acres in wheat; 16 in rye; 1 1-2 in oats; 34 in corn, and 4 in peas and sorghum. Will sell the place as a whole or in two tracts. Would say to any purchaser that if he comes and looks at the place and finds it *not as represented I will pay his railroad fare.*

B. B. Buchanan,
Bedford City, Va.

BLUE GRASS & TRUCK FARMS.

The best grazing section of Virginia, Blue grass indigenous. If you are interested in fruit growing or trucking, you can find no better country in the United States.

BUY THE BEST and send for our free Real Estate Bulletin, it will help you find it. SOUTHWESTERN VIRGINIA LAND AGENCY, C. B. Thomas and L. F. Krenning, General Managers, Wytheville, Va.



CASH FOR YOUR FARM OR ANY REAL ESTATE.

No matter where located. Send description and lowest cash price. I succeed by giving personal attention. Interesting and valuable particulars FREE. Write today. Bank references.

WILLIAM T. BROWN, 114 Brown Law Bld'g, Lancaster, Pa.

FOR SALE

—OR—

FARM ON SHARES

I will sell all or one-half my dairy business, or I will give the right man an interest in profits to superintend same. A bargain for a good man. Apply OAK HILL STOCK AND DAIRY FARM, Wenonda, Va.

D. & W. R'y.

200 ACRE

farm in Bedford county for sale. 4 miles from Bedford City. Good road; has good 6 room house, nice yard and lawn, other necessary outbuildings. Land is gently rolling; 20 acres well drained bottom land; adapted to grass, wheat and tobacco; 60 acres in grass; well fenced into 4 fields, 4 lots, 1 acre garden, 4 lots in orchard of 250 select fruit trees; one-half mile to P. O., school and church. Price, \$4,500. JOHN H. REED, Bunker Hill, Va.

HOUSE WANTED

for month of August and probably September. Would like either furnished or unfurnished house for above time within 30 miles of Richmond, at or very near railroad station. Address with terms, NORMAN, care Box 840, Richmond, Va.

...FOR SALE...

FARMS AND SUBURBAN HOMES OF EVERY DESCRIPTION.

25, 50, 100, 500, 1,000 and 2,000 acre tracts. Some of these highly improved and convenient to schools, churches, steam and trolley lines. If you want to buy or sell a Virginia farm, see Hockaday & Casselman, Richmond, Va.

J. R. HOCKADAY, Richmond, Va.; LAURENCE CASSELMAN, Ex-Auditor McLaine Co., N. Dakota.

••• VIRGINIA FARMS •••
Nice little poultry farm, 100 acres, good house and orchard, \$500.00. Blue Grass, Stock and Fruit Farms. Address PORTER & GATES, Louisa, Va.

REPORTS.

U. S. Department of Agriculture, Washington, D. C. Year book of the Department of Agriculture 1903. This is one of the best year books ever got out by the Department and is a perfect mine of facts and information useful to farmers. Ask your Congressman or Senator to send you a copy. The Department has barely sufficient for its correspondents. Nearly the whole issue goes to Congressmen and Senators. Report No. 77. Alfalfa and beef production in Argentina.

Report 78. An enemy of the Cotton Boll Weevil.

Bureau of Forestry. Bulletin 50. Cross-tie forms and rail fastenings with special reference to treated timbers.

Some results of investigations in soil management.

Statistical matter relating to principal crops and farm animals, freight rates, exports, etc., of the U. S.

Farmers' Bulletin No. 196. Usefulness of the American toad.

Farmers' Bulletin No. 197. Importation of game birds and eggs for propagation.

Idaho Experiment Station, Moscow, Id. Bulletin 41. Grasshopper and cricket outbreaks.

Kansas Experiment Station, Manhattan, Kas. Bulletin 123. Crop experiments in 1903.

Maryland State Horticultural Society, J. B. S. Norton, Secretary, College Park, Md. Report for the year 1903.

Michigan Experiment Station, Agricultural College, Mich. Bulletin 211. Breakfast foods.

Bulletin 212. Seed testing for farmers.

Nebraska Experiment Station, Lincoln, Neb. Bulletin 84. Pasture meadow and forage crops.

New Mexico Experiment Station, Mesilla Park, N. M. Bulletin 50. Steer and lamb feeding.

New York Experiment Station, Geneva, N. Y. Bulletin 252. Analyses of commercial fertilizers.

Rhode Island Experiment Station, Kingston, R. I. Sixteenth annual report.

South Carolina Experiment Station, Clemson College, S. C. Bulletin 83. Results of practical experiments with peach borer.

Bulletin 84. One horse farm.

Bulletin 85. Commercial fertilizers.

Bulletin 86. Tobacco culture in South Carolina.

Bulletin 87. Analyses of commercial fertilizers.

Tennessee Experiment Station, Knoxville, Tenn. Vol. XVII No. 2. Increasing the yield of corn.

Virginia State Crop Pest Commission, Blacksburg, Va. Circular to nurserymen, May, 1904.

Circular relating to fumigation of nursery stock, June, 1904.

HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well at farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.
C & O Main St. Depot Richmond, Va.

..To Homeseekers.. "THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Agt.,
G. P. A., Lands and Immigration,
Roanoke, Va.

Northern Virginia,

Grain, Fruit, Dairy and Blue Grass Farms of every Class within one hour of Washington, D. C.

LOUDOUN COUNTY
Farms a Specialty.....

Catalogue on application.

P. B. BUELL & SONS,
Real Estate Brokers, &

Herndon, Fairfax Co., Va.

Farm For Rent.

Will rent a Cotton and Tobacco farm on shares to a first class farmer. Good buildings and plenty of labor. Will sell stock reasonable. FRANK W. HOPKINS, Newman, N. C.

"In the Green Fields of Virginia."

Homes for ALL; Health for ALL; Happiness and Independence for ALL. ALL sizes of FARMS at corresponding prices, but ALL reasonable.

MACON & CO., Orange, Va.

I Can Sell Your Farm....

If located in one of these Virginia counties: Prince George, Chesterfield, King William, Gloucester, New Kent, King and Queen, Hanover. Send description, stating price.

JOHN JELINEK, 1116 Pine Alley,
Braddock, Pa

VIRGINIA FARMS

\$3 PER ACRE AND UPWARDS.

EASY PAYMENTS. CATALOGUE FREE

GEO. E. CRAWFORD & CO., Richmond, Va

Established 1876.

FINE FARMS

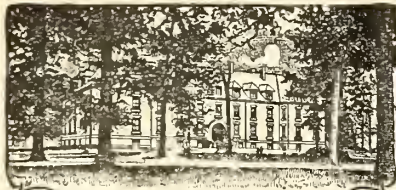
In the great fruit grain and stock section of VIRGINIA. Best climate and water in the U. S. Near great markets, with best educational advantages.

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SAM'L B. WOODS, Pres Charlottesville, Va.

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**ELIZABETH COLLEGE
and Conservatory of Music**
A High Grade College for Young Ladies.

Delightful climate; beautiful suburban location; new fireproof buildings. University-trained, experienced teachers; reputation for thorough work, good health, fine table-board. Catalog free.
Chas. B. King, Pres., Charlotte, N.C.

**WARNER'S
Correspondence School**

At Bradford, Pa., teaches SHORTHAND, BOOKKEEPING and PENMANSHIP by mail. Write now.

SECRET

BENEVOLENT SOCIETY FOR FARMERS AND THEIR WIVES. Pays \$10 weekly sick, \$20 weekly accident and \$2,000 death benefit, and \$50 old age pension. Organizers wanted, good pay. KNIGHTS OF AGRICULTURE, Washington, D. C.

"Feeds and Feeding"

Prof. Henry's Great Book for Farmers and Stockmen.

Delivered anywhere for - - \$2.00
With the SOUTHERN PLANTER, 2.25

WANTED!

ALL KINDS OF
LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Bob White Quail, Grey Squirrels, Bear, Baby Raccoons, Foxes, Etc.

DR. CECIL FRENCH,
718 Twelfth St. N. W., Washington, D. C.

**FOR SALE
—OR—
EXCHANGE**

\$100.00 buys a fine 4-year (Roan) SHORT HORN BULL; or will exchange for 3 Red Poll one year old heifers, entitled to registration. The bull is of kindly disposition. OCCONEBECHEE FARM, Durham, N. C.

FOR SALE OR TRADE,

A large, handsome trotting stallion; cheap for cash or will trade for thoroughbred or draft stock. Will pay boot if your horses are worth more than mine. PERCIVAL HICKS, North, Matthews county, Va.

VIRGINIA FARMS

All prices and sizes. Free list on application.
WM. B. PIZZINI CO., RICHMOND, VA.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

WASHINGTON NOTES.

Secretary Wilson is a strong friend of the American beet. He has great faith in the sugar beet as a sugar proposition and as an adjunct to both the live stock and dairy industries. The ordinary beet sugar factory is enormously expensive, costing from half a million dollars up, and the question of getting the beet pulp, after the sugar is extracted, back to the farm to be utilized as stock feed is a serious one. In probably the majority of cases it cannot be done economically. Many of the beets are shipped into the big factories from far distant farms, some of them a hundred miles away and it is obviously impracticable to ship the pulp back for feed. But the Secretary's beet sugar experts are looking into the feasibility of establishing numerous small plants at a cost of a comparatively few thousand dollars in which the preliminary process of sugar extraction can be accomplished, in other words, where crude beet sugar can be made. If his idea can be worked out in practice it will mean a wonderful advance in both American sugar making and cattle feeding.

"For instance," said he, "if they could have one big refining factory in the middle of the State of Iowa and then a great number of small plants throughout the State to reduce the beets to crude sugar it would enable the farmers to utilize their pulp to great advantage and would tremendously stimulate sugar beet growing.

"Another thing, these great factories, as they are operated now, can make sugar for only a few months each year; then they must shut down until the next crop, during which period a large investment of capital is idle. If the little factories can do the work of raw manufacturing, the big refinery can be run the year around as the capacity of the refinery will be regulated according to the output of the small plants. With the small plants well distributed the beet pulp could all be utilized for stock feed; it can be kept in silos as well as can corn fodder or other green feed. Have you seen our late bulletin on beet pulp?"

"Yes," I answered, though I did not admit that I had not read it.

"Well, that tells you all about the value of beet pulp. But this other matter is just an idea. There is nothing to say about it. I am just starting some inquiries."

All of which is very modest in Mr. Wilson, but it is this sort of initiative effort which has brought the American Department of Agriculture into worldwide prominence and has made it the foremost agricultural bureau of the globe.

"The most we are doing now in beets," he continued, "is in growing beet seed. We must grow all our own seed in this country. We will keep home half a million dollars a year and we will have better seed. We can

Kills 'em Quick



**Magic
Death
Powder**

NOT A POISON, but a remarkable discovery which is very effective in causing stupefaction and death to all kinds of Insects infesting Poultry, Animals, Plants and Houses. Put up in a box ingeniously arranged for conveniently dusting or blowing the powder where wanted.

Send 25c. to MAGIC FOOD CO., Chattanooga, Tenn., and get a box by mail. A beautiful picture in colors suitable for framing given FREE with each order during the next 30 days. Rid your Chickens of Lice, Pet Animals of Fleas, etc. Your House of Bed Bugs, Flies and Mosquitoes, by the use of MAGIC DEATH POWDER.

KILL THE LICE

on your poultry and stock with Gibson's Liquid Lice Killer, no greasing, no dusting; prominent farmers and poultrymen using it in every State.

Your money back if not satisfactory. Gallon can \$1.00. Trial can 25c.

GIBSON & LAMB,
West Alexander, Pa.



**COOPER
SHEEP DIP**

Standard of the World
for 60 years. Used on 250 millions annually. One dipping kills Ticks, Lice and Nits. No smell. Keeps flock clean a long time. Increases growth of wool.
Dipping Tanks at cost.
Send for Pamphlet to Chicago.
If local druggists cannot supply, send \$1.75 for \$2.00 (100 gal.) pkt. to **JOHNSON & STOKES, Philadelphia, Pa. G. A. KELLY & CO., Pittsburg, Pa. WM. COOPER & NEPHEWS, Chicago, Ill.**

Walnut Wanted.

I pay cash for black walnut tree forks or crotches; should be dry and none or very little worm eaten. Let me know what you have, many or few. Might buy stumps if well trimmed down. I pay freight. HYDE, Box 681, Richmond, Va.

Go South. For full particulars write **A. JEFFERS,** Norfolk, Va.

Spavin

Bone Spavin, Bog Spavin, Ringbone or any kind of blemish—we have what you need to make a certain cure. Guaranteed always—money right back if it ever fails.

Fleming's Spavin Cure (Liquid)

for the soft bunches—Paste for the hard ones. A 45-minute application and the lameness goes. Lots of blemish information in the free book we send.



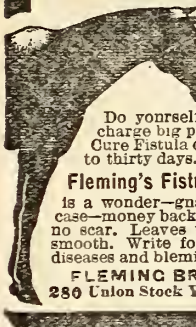
Fistula and Poll Evil

Do yourself what horse doctors charge big prices for trying to do. Cure Fistula or Poll Evil in fifteen to thirty days.

Fleming's Fistula & Poll Evil Cure

is a wonder—guaranteed to cure any case—money back if it fails. No cutting—no scar. Leaves the horse sound and smooth. Write for our free book on diseases and blemishes of horses.

FLEMING BROS., Chemists,
250 Union Stock Yards, Chicago, Ill.



The Only Cow Food

Which removes Garlic, Onion and Weed Taint from Milk. Send for circular to

VA. CATTLE FOOD CO.

DANVILLE, VIRGINIA.

FOR SALE BY

- E. B. McGeorge, Richmond, Va.
- W. H. Harrison Co., Petersburg, Va.
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- R. G. Hlatt, L. Richardson Drug Co., Greensboro, N. C.
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English Setter Puppies.

You had better get in line if you want something fine, for sure there is nothing better than a high bred English Setter. Now booking orders for the best bred pups in America. Home of the most fashionable strains of Hunting dogs, Poultry and Stock. The Cedars P. & S. Farm, WM. G. OWENS, Midlothian, Va.

Edgewood Stock Farm.

SCOTCH COLLIES!

A beautiful litter of sables and blacks, full white marks. Bred strong in blood of Christopher, Barwell Mystery, and Doon Marvel. Sire and dam grand drivers, great workers. Pups now ready at \$10 and \$8. Eligible to registry. Get photos. H. B. ARBUCKLE, Maxwelton, W. Va.

POINTER PUPS,

for sale. I have a few well bred ones, 6 weeks old; males, \$10; females, \$5. Write for particulars. C. H. FLEMING, Highland Park, Richmond, Va.

ARCADIA FARM.

COLLIES FOR SALE

1 dog and 2 bitches, 2 and 3 years old, respectively; sable and white, all registered; markings and blood of the best strains. Selling them to prevent inbreeding. E. M. BALL, Emory, Va.

grow the best beet seed in the world, as we grow the best beets."

"Better even than the German seed of the long unpronounceable name?"

"O yes, far better. We can grow better beets in America, richer in sugar, and bigger tonnage per acre; American farmers have grown beets with 28 per cent. saccharine, and 38 tons per acre. The question now lies with the farmers. The average yield is far too low—8 tons per acre. Our people must grow more tonnage. If we can grow an average of 15 tons per acre we will not then need any protective tariff—15 tons an acre and 18 per cent. sugar. That will beat the world."

"Even the Philippines, where they can grow sugar for a cent a pound?"

"Yes, we can even let the bars down for the Philippines, and that is coming sometime, surely coming. The advantage which the farmers of our temperate zone will have over the Philippines, or Cuba or Hawaii is that while their soil fertility will decrease with a constant planting to a single crop, our farmers will diversify their crops and thus keep up the fertility of their soil. Why even in Hawaii, now, they are needing to use fertilizer very largely. They have to send to Chile for nitrogen, to Florida for phosphate and to Germany for potash and they have to take over coal from British Columbia to pump water for irrigation. Then the question of transportation from these countries is an item."

"How much of fact is there in the statement made by the opponents of the beet sugar industry that the American farmer will never make a successful beet grower, that he will not get down on his hands and knees nor permit his wife and children to do so to tend the beet plants the way the foreign growers do?"

"Nothing. Our early growers made a blunder. They tried to cultivate beets with the hoe. They imported Europeans and had their beet crops hoed and weeded by hand. The hoe does not cultivate deep enough. After the planting and the thinning, everything should be done with the horse cultivator."

The Bureau of Animal Industry has prepared a short statement describing an important discovery and treatment for milk fever in cows, which, as a matter of fact the author, Dr. John R. Mohler, says is not a fever at all. This affection of the udder which attacks old nursing cows has heretofore yielded in only about 60 cases out of a hundred to what is known as the iodide treatment. The new treatment is simply injecting sterilized air into the udder, an extremely simple and inexpensive operation, but which proves successful in 97 per cent. of the cases treated. It has been extensively practiced by the manager of the Biltmore estate and is in general usage in the Island of Jersey.

The Congressional resolution to print 100,000 "horse books" fell by the



Warranted to give satisfaction.

GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

IT'S GOOD

For every horse, cow, hog or sheep, and it is the only remedy which they take voluntarily and relish.

Blackman's Medicated Salt Brick

is the best stock remedy made (being the formula of a celebrated veterinarian) and being so pleasant to take, on account of the salt taste, does away with all trouble of dosing, drenching and mixing with feed. It is unequaled as a blood purifier, aider of digestion and general system regulator. Thousands endorse it.

Special Offer—We will send four brick, prepaid to any address upon receipt of \$1.00, which will be cheerfully refunded if you are not in every way pleased.

Sold by dealers. **BLACKMAN STOCK REMEDY CO.**, 927 Highland Park, Chattanooga, Tenn.

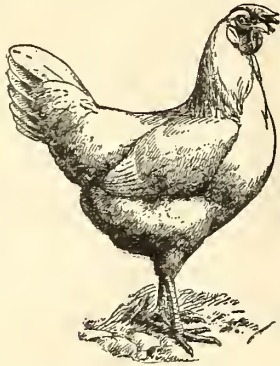
DEATH TO HEAVES Guaranteed

NEWTON'S Heave, Cough, Dis-temper and indigestion cure. A veterinary specific for wind, throat and stomach troubles. Strong recommends. \$1.00 per can. Dealers. Mail or Ex. paid. **The Newton Remedy Co., Toledo, Ohio.**

No More Blind Horses For Specific Ophthalmia, Moon Blindness and other sore eyes, Barry Co., Iowa City, Ia, have a sure cure.

COLLIE PUPS
By Imported Sires. Sable and white and tri-colors. Prices \$8 to \$15. Older ones correspondingly low—Book on Training, 50 cents: FREE if you buy a Collie.
MA PLEMONT STOCK FARM, South Athol, Mass.

White Leghorns.



Half Price, \$1 per sitting of 15.

C. G. M. FINK, R. F. D. No. 2.
Richmond, Va.

EGGS for HATCHING.

75c. Per Sitting of 15.

Light Brahmas, Black Minorcas, S. L. Wyandottes, Barded and W. Rocks, Brown Leghorns S. and R. C; White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, Manassas, Va. CLOVER HILL FARM.

CHOICE FOR HATCHING.

Of 40 Varieties Best Poultry. Fine, large illustrated descriptive Poultry Book postpaid, only 6c. Price list FREE. Write now. JOHN E. HEATWOLE, Prop. Valley Poultry Farms, Harrisonburg, Va.

WALSH'S Barred Plymouth Rocks

High class combination utility and exhibition stock. Best blood. Bred from prolific layers of large brown eggs. Eggs, \$1.50 per 15.

L. W. WALSH,
Lynchburg, Va.
Box 194.

EGGS FOR HATCHING

STRAWBERRY HILL POULTRY YARDS—B. P. Rocks, S. C. B. Leghorns, \$1.00 for 15.

Genuine Aristocrats
Taken 1st prize throughout 7 States.
Box 287, Richmond, Va.



BARGAINS

for months June and July, WHITE WYANDOTTE eggs, \$3.00 per 100. EDMONTON POULTRY YARDS. JOHN A. REEDY, Prop. Liberty Mills, Va.

ANGORA GOATS are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.

wayside last session of Congress and the consequence is that the Department of Agriculture has received hundreds of requests for this bulletin which it cannot meet, the Department's own funds available for its publication having been exhausted.

The government horse book and the cow book appear to be in wide demand among farmers. These volumes are obtainable only from Congressmen and Senators. "We have had to refuse thousands of requests for these books," said Mr. G. F. Thompson, the editor of the Bureau of Animal Industry. "I presume if we had them we could dispose of a hundred thousand copies of each a year. They seem to be extensively read."

The cow book is now being revised and enlarged by the Bureau, prior to the publication of another edition.

Some of the State Experiment stations are issuing their annual bulletins containing spraying formulæ. For spraying certain annual crops it may not be too late to begin, though it should be remembered that spraying against fungous diseases of fruit is a preventive treatment and not a remedy and that the application of Bordeaux mixture, etc., should have been made much earlier in the season. Of course spraying to kill insects, such as the potato beetles and plant lice is not necessary until the pests make their appearance. If there are no State agricultural publications obtainable on this subject, the Department of Agriculture has a comprehensive farmers' bulletin which will be supplied any farmer on application.

From the experiment station report of the Department of Agriculture it is learned that German experiments have been made upon cerebro-spinal meningitis in horses, due to certain microorganisms. These were destroyed by the subjection of the bacilli to a temperature of 146 F. It must thus be inferred that horses if sufficiently parboiled can be cured of this dangerous disease.

Consul-General Guenther to Germany reports the following figures of government aid to agriculture:

Russia	\$24,000,000
France, Australia and Hungary (each)	8,500,000
United States	6,000,000
Japan	2,500,000

In proportion to the area of cultivated soil Austria pays the highest amount followed by Hungary, then France, then Russia, then the United States. Mr. Guenther does not mention the proportion paid by Japan which is evidently much larger than that of the United States, since only about twenty-five per cent. of Japan's area is cultivatable. Japan's total area is about the same as that of Montana.

The exports of bread stuffs for the fiscal year ending the first of July will be the smallest for many years. For the eleven months ended June first

PIT GAMES

Black Devils and Red Cubans.

Where they won, Sharon, N. Y., 4 out of 5. Blue Rock, Pa., 2 out of 3. Clarion, Pa., 5 straight. Roanoke, Va., 8 out of 9. Akron, Ia., 2 straights. Eggs, \$2 per sitting. Young trios, quail size, \$3.

THOS. W. JARMAN, Yancey Mills, Va.

Piedmont Poultry Place,

"Handles nothing but the best."

We now offer Pure-bred POLAND-CHINA Pigs for sale. We will not sell under 8 weeks old. Single pig \$6; per pair \$10; per trio, \$14. Some ready for shipment May 15th. First orders get best pigs.

Miss E. Caille Giles, Prop., Whittles Depot, Va.

Meadow Brook SHROPSHIRE.

For sale; very fine one and two year old pure bred SHROPSHIRE BUCKS; some very nice ewe lambs. C. A. SAUNDERS, Meadow Brook Stock Farm, Culpeper, Va.

HAMPSHIRE DOWN SHEEP

We have sold all of our 1 and 2 year old Hampshire Rams, but have a GRAND LOT OF LAMBS for next year's trade. MEADOW BROOK FARM, J. D. THOMAS, Round Hill, Va.

DORSET RAM

for sale at a sacrifice, if taken at once; is registered, and his breeding and individuality are the best. ELKTON STOCK FARM, Forest Depot, Va.

DORSETS AND HEREFORDS

H. ARMSTRONG, Lantz Mills, Va.

Woodland Farm

offers the best lot of October dropped Dorset Ram lambs which it has ever raised.

J. E. WING & BROS., Mechanicsburg, O.

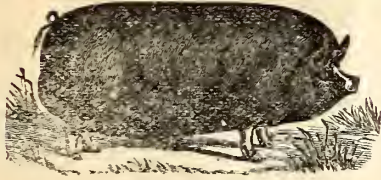
V. P. I. Farm Bulletin

We have for sale at present, some splendid DORSET RAM LAMBS.

For prices, etc, address

D. O. NOURSE, Prof. of Agr. Blacksburg, Va.

Berkshire Hogs!



Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV, Model Lee IX, sire Gov. Lee**, champion of America in 1889, Sows of EQUALLY NOTED Strains. A few nice pigs for sale. Write for prices.

JNO. CALHOUN, Clío, S. C.

BERKSHIRE PIGS FOR SALE

We have on our Hollybrook Farm a fine lot of young Berkshire Pigs from 8 to 12 weeks old, for sale. These pigs are from registered stock, and are first-class in every respect. Our pigs have free range, with fine stream of running water through the hog pastures, and our stock is as vigorous and healthy as possible. Price either for boar or sow pigs, \$5 each, crated and delivered on cars, or to express office at Richmond. Address orders to HENRY W. WOOD, Box 330, Richmond, Va.

Berkshires

Best ENGLISH and AMERICAN blood. Herd Boars: Columbus Lee VIII (brother of Combination); Workman of W. (sire, Jack of all Trades). Stock for sale at prices YOU CAN AFFORD TO PAY. H. W. FUGATE, Fugate's Hill, Russell county, Va.

BERKSHIRES

Some fine young Boars and Sows for sale. Pure Biltmore blood, by MASON OF BILTMORE II (68548), a son of Loyal Mason, and a grandson of the famous Loyal Berks. Splendid testimonials from my customers. Write for further information. ROBERT HIBBERT, Charlottesville, Va.

BEECHENBROOK STOCK FARM.

High class registered BERKSHIRE PIGS, ready for immediate delivery.

PRICES REASONABLE,

WILLIAMSON TALLEY,
Richmond, Va.



Hawksley Stock Farm,

has a few fine young BERKSHIRE BOARS to sell. No more pigs until August 1st, also a few half bred DORSET HORNED BUCK LAMBS. J. T. OLIVER, Prop. Allen's Level, Va.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

they were but \$138,000,000 against \$199,000,000 for last year and in the neighborhood of \$250,000,000 each for the years 1899, 1900 and 1901. For the past May they were but \$4,700,000 against \$15,800,000 last year and \$25,700,000 in the banner May of 1901.

In proportion to the population Hungary contributes most—over eight cents per capita while the amount of the United States is less than one cent.

Exports of cattle, sheep and hogs for the fiscal year ending July 1, 1904, will be over \$40,000,000. For the first eleven months of this year they were \$39,000,000, an increase of \$13,000,000 over the corresponding period of 1903. The average for the past five years has been \$27,000,000.

The more of such finished concentrated farm products shipped abroad with a consequent increase in farm fertility left at home, the better for American agriculture.

GUY E. MITCHELL.

LOUDOUN CO., VA.

Editor *Southern Planter*, Richmond, Va.

Dear Sir,—I send you under separate cover a description and premium list of the Colt Show recently held in this county at Leesburg, Va.

We are having a very wet June. Hay crop is likely to be the largest for past 10 years. Corn is looking well with mostly good stands. Not more than half crop of wheat, and harvest will be from one week to ten days later than usual. A full crop of cherries, large crop of peaches, apple crop almost a failure, abundance of pasture.

July and August cattle selling from \$4.25 to \$5.25 per cwt.; lambs selling from \$4.00 to \$4.50 each.

This is a strictly stock country and I hope I can benefit the SOUTHERN PLANTER by reporting from this county (Loudoun).

Very respectfully,

J. D. THOMAS,

Meadow Brook Farm.

June 20th, 1904.

CATTLE STANCHION.

Mr. Wallace B. Crumb, Forestville, Conn., is offering in another column the Warriner Patent Chain Hanging Cattle Stanchion. In offering this stanchion to the public, Mr. Crumb does so with the absolute confidence that it will please any farmer or dairyman who will investigate its merits. There are numerous points of merit which are attractively set forth in a neat little pamphlet. It will be mailed free on application.

We take pleasure in advising all those who have the cleanliness and physical comfort of their animals at heart to get into communication with Mr. Crumb at once.

Mention the SOUTHERN PLANTER in writing.

RINGWOOD STOCK FARM.

BERKSHIRES and POLAND CHINAS

for future delivery. I offer 7 Berkshire Pigs from Reg. Parents and 7 pure bred Poland-China Pigs, not registered, but as fine as the finest. Both litters farrowed May 23, 1904. For price, etc., apply to C. A. WILLIAMS, Prop., Ringwood, N. C.

ORCHARD HILL PURE-BRED

POLAND CHINA

Pigs and brood sows for sale. Also a fine Guernsey Bull Calf and S. C. B. Leghorn Eggs. F. M. SMITH, JR., R. F. D., 4, Charlottesville, Va.

Choice Poland-Chinas.

Sunshine and Free Coinage Blood.

Choice 2 1-2 months pigs. Either sex—ready for shipment. \$7 each. Eligible to registry and guaranteed O. K. Buy the best, it pays to do so. E. T. ROBINSON, Lexington, Va.

Essex and Poland China



pigs from 8 weeks to 4 months old, An extra choice lot. Also some choice Southdown and Hampshire down sheep and lambs. For prices, address

L. G. JONES, Tobaccoville, N. C.

Poland China Pigs

for sale. High grade, registered stock; first class in every particular. Correspondence invited. R. A. MAPP, Bivalve, Va.

Registered P. Chinas

Berkshire,

C. Whites. Fine large

strains. All ages, mated

not a in, 8 week, pigs.

Bred sows. Service boars

and Poultry. Write for prices and free circular.

P. F. HAMILTON, Cochranville, Chester Co., Pa.



FAMOUS O. I. C. SWINE.

Mortgage Lifters—the hog for profit. Excel all others in vigor, health, strength of constitution, bone and muscle. Large litters, large gains, gentle dispositions, grand milkers, good feeders, thrive in any climate. Good ones, 3 months old, for sale. Reg. Stock. Prices low for quality. MANSFIELD FARM, W. ELLIOT HAMMOND, Goochland C. H., Va.

Poland-Chinas and Chester Whites

AT FARMER'S PRICES.

S. M. WISECARVER, - - Rustburg, Va.

Maplewood Herd

of Berkshires.

Choice individuals. Selectly bred. Write for prices, stating your wants. JOHN F. TUCKER, Smyrna, Tenn.

OAK-HILL FARM

**SADDLE HORSES, JERSEY
AND ABERDEEN ANGUS CAT-
TLE, BERKSHIRE HOGS,**

—FOR SALE—

Shipping point Oak-Hill, Va., (Station on farm)
on D. & W. Ry. 15 miles west of Danville, Va.
SAM'L HAIRSTON,
Wenonda, Va.

ELLERSLIE FARM

**Thoroughbred Horses
AND SHORTHORN CATTLE,
Pure Southdown Sheep
and Berkshire Pigs.**

FOR SALE. R. J. HANCOCK & SON,
CHARLOTTESVILLE, VA.

THOROUGH-BRED....

**Berkshire Boars,
Dorset Buck Lambs,
Jersey Bull Calves.**

All stock in best of condition and
guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

—ONE REGISTERED—

HEREFORD BULL

calf, 10 months old for sale, or will exchange
for a heifer.

W. J. McCANDLESS Brandy Station, Va.

ALFALFA WHITE FACE FARM

Lebanon, Ind.

J. N. SHIRLEY, Hereford Cattle Breeder.

Good stock at "live and let
live" prices.

A son of DALE, the \$10,000.00
bull, at head of herd.

INCULATED ALFALFA soil
and seed for sale, seed, 18c 1b,
\$10 per bu.; Soil, 75c 100 lbs.;
\$10 ton.

KENTUCKY JACK FARM

Write or see me be-
fore you buy. Come to Kentucky if you
want a good Jack. JOE E. WRIGHT, Junc-
tion City, Ky.

A fine lot of KEN-
TUCKY bred and big
BLACK SPANISH
Jacks and Jennets;
also 1 and 2 year old
Jacks; young stock for
sale at all times.

MACHINERY FOR FARM AND MILL.

A Well-known Line of Machinery on
Exhibit at the St. Louis Exposition.

The exhibit of the A. B. Farquhar
Co. in the Palace of Agriculture at the
St. Louis Exposition, comprising en-
gines, boilers, threshers, saw mills and
agricultural machinery, is a revela-
tion in mechanical improvement. Even
the last year has seen some remarkable
advances along this line. For in-
stance, the Farquhar Co. are exhibit-
ing the only mechanical log turner in
the world that can be used with a
portable mill. This effects great econ-
omy and consequent profit in opera-
tion.

While the Farquhar Co. build all
styles and sizes of engines, they make
a specialty of engines for agricultural
work; and it is a noteworthy fact that
no case is known of a Farquhar boiler
having exploded.

The threshing machines, grain drills
and other agricultural machinery ex-
hibited, possess unique features of
merit that make them worthy of care-
ful inspection.

To those who cannot see this ex-
hibit at the fair, the next best thing
is to possess a catalogue describing
and illustrating this machinery just
as it is. The A. B. Farquhar Co., Ltd.,
York, Pa., will send one free for the
asking. It is worth having.

GOOD FOR YOUNG PIGS.

Bolton Landing, N. Y., June 14, 1904.

Jos. Haas, V. S., Indianapolis, Ind.

Dear Sir: Your Hog Remedy is all
right. When I received it I had two
litters of small pigs that had been sick
for about two weeks with the scours,
and had lost two pigs from each lit-
ter. I began feeding the Remedy as
soon as I received it and have lost
none since. It has straightened them
right out and they are well now. The
mother of one of the litters was taken
sick about the same time as the pigs;
she was lame in her hind parts and
could hardly get around, but through
the use of your Remedy she is doing
well now. I think it a good remedy
and recommend it to all hog raisers.
I tried other remedies before I got
yours but they did no good. Please
send me three more half cans as I do
not want to get out of it again.

CHARLES ROBERTS.

The Lawrence Williams Co., Cleve-
land, Ohio.

Gentlemen: In March last, I or-
dered a bottle of Gombault's Caustic
Balsam to be used on a colt with Bog
Spavin that I had used other remedies
on, without success. I have cured it
with three applications of Balsam.

You requested me to write the re-
sults of its use. I consider it *the best
blister made.*

Yours truly,

W. F. JORDAN,

Livery Feed and Sale Stable, Monti-
cello, Ga.

PLEASANT VALLEY STOCK FARM**SHORTHORN**

calves from fine milking stock.

Yorkshire Pigs

of prolific breed.

JAMES M. HOGE, Hamilton, Va.



**COOK'S CREEK HERD
SCOTCH - TOPPED
SHORTHORNS...**

Herd Headed by Governor
Tyler, 158548, 1st prize aged bull at Radford Fair,
Young Bulls and heifers for sale. Inspection
and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

SHORT HORN BULLS for sale, from 3 to
20 mos. old; sired by VERBENA'S CHAMP-
ION, No. 129881, and ROYAL CHIEF, No.
185432. Some good POLAND CHINA spring
pigs and 2 nice fall boars. All stock eligible
to record. Rare bargains for quick buyers.
WM. T. THRASHER, Springwood, Virginia,

TAMWORTH BOARS Ready for
Service;

Bred from Registered Stock, Imported
from Canada.

I. H. LAREW, Newbern, Va.

Red Poll Bull

Calf 11 months old, pure bred and regis-
tered, for sale. Price, \$50 f. o. b. cars Chris-
tiansburg, Va. Address

H. K. FOSTER,
Blacksburg, Va.

Swift Creek Stock and Dairy Farm

Has for sale a large num-
ber of nice young regis-
tered A. J. C. C.

**JERSEY BULLS
AND HEIFERS.**

None better bred in the South. Combining
closely the most noted and up-to-date blood
in America. Bulls 4 to 6 months old, \$25;
Heifers, same age, \$25. POLAND CHINA
PIGS, \$5 each. Send check and get what
you want.

T. P. BRASWELL, Prop., Battleboro, N. C.

—The Woodside—

Jersey Herd.
Bull Calves and Yearlings
Richly Bred.

DAVID ROBERTS, - - Moorestown, N. J.

A neat Binder for your back num-
bers can be had for 25 cents. Address
our Business Office.

BILTMORE FARMS, = Biltmore, N. C.

Headquarters for GOLDENLAD JERSEYS,

Also Get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

GOLDEN LAD'S SUCCESSOR. First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

SPECIALTY. Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company.



BILTMORE POULTRY YARDS.



SPECIALTY. Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO *BILTMORE FARMS, BILTMORE, N. C.*

EGGS FOR HATCHING

The Imperial Fruit and Poultry Farm

❀ ❀ Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13. ❀ ❀

BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
SILVER LACED AND WHITE WYANDOTTE,
MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

P. H. HEYDENREICH, Prop., : : : Staunton, Va.

COTTAGE VALLEY STOCK FARM.

FINE STOCK

FOR SALE

We offer the following VERY FINE stock at VERY LOW prices; 7-8 and 15-16 GRADE ANGUS bull calves; one bull calf out of Short-horn cow, by our Angus Herd Bull; Registered and high grade Angus Heifer Calves; Splendid Buck Lambs out of Shropshire Ewes by Reg. Dorset Buck; several fine family milch cows, fresh, young and gentle.

W. M. WATKINS & SONS, Saxe, Va.

ABERDEEN-ANGUS Bull Calves.

I offer for sale two pure bred bulls of the above breed, born Dec. 15, and Jan. 30 respectively, sired by my registered bull, ROCKBRIDGE ABACTOR, No. 40364, and out of pure bred but unregistered cows. The Dec. 15 calf is full brother to one sold last season to Mr. Beard, of Moffatts Creek, Augusta county. The other is out of my largest cow and very promising. These calves will be kept with their dams until nine months old. \$50 each.

I have also a fine registered bull calf that will be ready for delivery in February. \$100. No females sold.

B. F. DAY, Glasgow, Va.

GREENFIELD HERD OF

Aberdeen Angus Cattle.

Baron Ida, 20184 (Champion yearling, 1st firsts, 17 times in 1st prize herd, 4 firsts on produce of sire and 3 times at head of grand sweepstakes herd) at head of herd.

The females in this herd are prize winners or the immediate descendants of prize winners sired by such noted bulls as Champion Lord Hillhurst, Beau Forbes H., by Beau Bill (champion of the West for two years); Cham. Baron Ida, Ludolph 4th, Rustler 2d.

Choice calves from the above cows sired by Baron Ida, Encouragement 46382, and Erard 55390.

WARREN RICE, Winchester, Va.

MONTEBELLO HERD

ABERDEEN-ANGUS CATTLE.

FOR SALE—Registered Bull calves from 3 months old, up.

L. H. GRAY, Orange, Va.

ROSEDALE HERD

Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jefferson, Va.

NAMES OF FERTILIZING ELEMENTS.

(Continued from last month.)

All agricultural plants consist essentially of ten chemical elements, the proportions of which vary quite widely with different plants. By the term element is meant an individual substance which cannot be divided into two different substances. These ten elements are carbon, hydrogen, oxygen, calcium, magnesium, iron, sulfur, nitrogen, phosphorus and potassium.

Carbon usually constitutes about 40 per cent. of the dry plant. It is obtained by the plant from the inexhaustible supply of carbon dioxide which is contained in the air. This compound, carbon dioxide, is absorbed by the plant through the leaves or other green parts.

Hydrogen and oxygen are the two elements of which water is composed and they are obtained by the plant chiefly in this form, the compound water being absorbed by the plant roots. The hydrogen and oxygen usually comprise more than 50 per cent. of the plant. Many of the important constituents found in plants consist entirely of only carbon, hydrogen and oxygen. This is the case with sugar, starch, cellulose or fiber and most fats or oils.

The four elements, calcium, magnesium, iron and sulfur, are obtained only from the soil, but the amounts of these elements required by plants are very small compared with the quantities which practically all soils contain, consequently none of these four elements is likely to become deficient in the soil.

The three remaining elements, nitrogen, phosphorus and potassium, are required by most agricultural plants in very considerable quantities, and they are quite limited amounts, consequently if crops are grown and removed from the land for a long series of years the supply of one or more of these three elements is liable to become so greatly reduced that the crop yields become smaller than were produced on the virgin soil, ultimately the yield becoming so greatly reduced that cropping ceases to be profitable. In such cases the yield of the crop can usually be more or less increased by applying to the soil that one of these three elements which is most deficient in the soil.

Because of these facts materials containing considerable amounts of one or more of these three elements have come to have a commercial value. Thus sodium nitrate, which is found in large quantities in Chile, is valued for the nitrogen it contains; bones and rock phosphate are valued for the phosphorus they contain, and potassium chloride and potassium sulfate, obtained from the very extensive mines in Germany, are valued for the element potassium which they contain.

Nitrogen in sodium nitrate is valued at about 15 cents a pound, phosphorus in fine ground steamed bonemeal at

about 12 cents a pound and potassium in potassium chloride at about 6 cents a pound. These three elements of plant food, nitrogen, phosphorus and potassium, are contained in ordinary commercial fertilizers. If all three are present the material is then called a complete fertilizer. If only one or two of the elements are present it is called an incomplete fertilizer.

In general farming we have practically no use for any so-called complete fertilizer. First, because by means of leguminous crops, such as clover, stock peas, soy beans, vetch and alfalfa, we can obtain nitrogen from the inexhaustible supply of the air, usually at a cost of not more than 1 cent a pound, and consequently it would be absurd to pay 15 cents a pound for commercial nitrogen; and, second, because a soil rarely becomes deficient in both phosphorus and potassium. Generally applications of the one which is most needed will give about as good results and much greater profit than both together.

Although it is only the element itself which possesses any value for the plant, yet the plant can make use of the element in many different forms or compounds; indeed, plants cannot use these elements if applied in the free



ANGUS & HOLSTEIN CATTLE.

Registered and graded, of all ages and sexes, and of champion blood for the beef and milk strains and at moderate prices. Also Nursery stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

3 Registered ANGUS=BULLS

9 months, 1 and 2 years old, for sale. Also half dozen Shropshire Buck lambs, September delivery. This is all fine stock and north of quarantine line. S. S. HEPBURN, Ashland, Va.

The RICHMOND FREDERICKSBURG, and POTOMAC R. R.

and WASHINGTON SOUTHERN R'Y

THE RICHMOND-WASHINGTON LINE.

The Link Connecting the

Atlantic Coast Line R. R.,
Baltimore and Ohio R. R.,
Chesapeake and Ohio R'y,
Pennsylvania R. R.,
Seaboard Air Line R'y
and Southern R'y.

Between all Points via Richmond, Va.

Fast Mail, Passenger, Express and Freight Route between Richmond, Fredericksburg, Alexandria, Washington, Baltimore, Philadelphia, New York, Boston, Pittsburg, Buffalo, and all points North, South, East and West.

W. D. DUKE, C. W. CULP,
General Manager. Asst. Gen'l Man.
W. P. TAYLOR, Traffic Manager.

or uncombined state. They must be present in some suitable compound. If a soil is deficient in potassium that element could be supplied in the form of potassium chlorid, a compound of the two elements, potassium and chlorine, containing in the common market grade about 42 per cent. of potassium; or the potassium could be supplied as potassium sulfate, a compound of potassium, sulfur and oxygen (the ending -ate always indicates oxygen in a chemical compound) which usually contains about 40 per cent. of potassium. Kainit, a crude mineral containing about 10 per cent. of potassium, is also sometimes used to supply that element. Of course the value of any of these materials depends primarily on the percentage of potassium it contains. As a rule potassium can be obtained more cheaply in potassium chlorid than in any other form.

Phosphorus is commonly obtained in the form of calcium phosphate, a compound of the three elements calcium, phosphorus and oxygen, as the name indicates. In perfectly pure form this compound contains 20 per cent. of phosphorus, but it cannot be obtained commercially in pure form. Good steamed bonemeal contains from 60 to 65 per cent. of calcium phosphate—that is, from 12 to 13 per cent. of the element phosphorus. A good quality of ground rock phosphate also contains about 12 to 13 per cent. of phosphorus. If the steamed bonemeal costs \$30 a ton the phosphorus costs 12 cents a pound. If the ground rock phosphate costs \$7.50 a ton the phosphorus in that material costs 3 cents a pound. Steamed bonemeal is known to be one of the very best forms of phosphorus and bonemeal is also a farm product, but the ground rock phosphate is a very much cheaper form of phosphorus, although it is considered much less readily available in the soil. However, if equal values (not equal quantities) of ground rock phosphate and steamed bonemeal be used on different plots and both in connection with farm manure or clover or other leguminous fertilizers it is very probable that the rock phosphate will give as good results within two or three years and much better results if the applications are continued year after year.

CYRIL G. HOPKINS.
University of Illinois.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

Smithdeal Business College

Broad & 9th Sts., RICHMOND, VA.

Commercial, Stenographic, Telegraphic and Egg. Depts. Ladies & gentlemen. No vocations. "It is the leading Business College south of the Potomac River."—PHILA. STENOGRAPHER. "When I reached Richmond, I inquired of several business men for the best Business College in the city, and, without exception, they all recommended Smithdeal's as the best."—W. E. ROSS, LAW STENOGRAPHER, Richmond. Bookkeeping, Shorthand, Writing, taught by mail.

We Are Still in the Business...

"HILL TOP" Stock at Shadwell, Va.

Having changed our residence, we brought with us and have for sale a choice lot of HILL TOP stock.

Southdown and Shropshire Sheep, Berkshire Hogs and B. B. R. Game Chickens.

Our Berkshire Pigs are now closely sold up, but we have a few left; will have a fine lot ready to ship by September 1st. We will be glad to serve our old friends and are always glad to make new ones.

We have won more premiums on sheep and hogs at State and County Fairs than all other breeders in Virginia combined.

H. A. S. HAMILTON & SONS, Shadwell, Va.

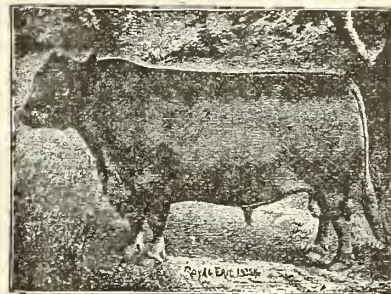
GLEN FARM

—Importer and Breeder of—

Polled Durham Cattle, Southdown Sheep and Poland China Hogs.

Polled Durhams are Shorthorns with the horns bred off. They are all either red or roan. Buy a Polled Durham and lay aside the bloody de-horned.

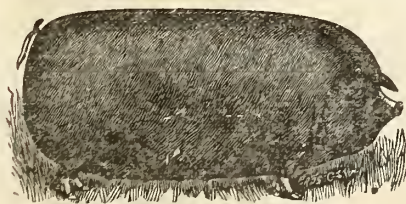
JNO. S. FUNK, Singers Glen, Rockingham Co., Va.



TAMWORTH and POLAND CHINA

Pigs from registered stock, 8 weeks old, \$5.00. A few nice POLAND CHINA Boars ready for service, for \$10 to \$15.

J. C. GRAVES, Barboursville, Orange Co., Va.



POLAND CHINAS. Choice Pigs, Boars, Gilts and Bred Sows fine breeding and individuality; also of SHROPSHIRE RAMS.

Pedigrees furnished; stock guaranteed as represented and if not satisfactory, may be returned at my expense. Prices low.

J. F. DURRETTE, Birdwood, Albemarle Co., Va.

—FOR SALE—

90 EWES AND GRADE LAMBS

This flock includes 3 REGISTERED SHROPSHIRE BUCKS and 2 REGISTERED EWES; some common ewes; the bulk being grade Shropshires; also, 20 HEAD GRADE SHORTHORN CATTLE, all ages. 1 McCormick Corn Harvester, almost new, \$75.00.

BULLFIELD FARMS, Doswell, Va.

GOOD HOUSEKEEPING.**CANNING FRUIT AND VEGETABLES.**

In the June number of the **SOUTHERN PLANTER** there is a request from a subscriber in Pittsylvania for recipes for canning snaps and tomatoes, and as I have been very successful in putting up these as well as other vegetables and fruits I concluded to devote the space allotted to "Good Housekeeping" to telling just how we do it.

SNAPS.

Gather the snaps before they begin to be tough, string them and prepare just as if you were going to have them for dinner. Cover them with cold water and let them boil until nearly done, then to four gallons of the snaps add one ounce of tartaric acid, fill the glass jars just as full as possible out of the boiling pot screw on the top at once and keep them in a dark place. When you want to use them open the jar, pour off the water, wash carefully and let them soak in clear cold water for an hour, and then boil them with meat and you can't tell that they are not fresh from the vines. They never spoil and there is no bad effect from the acid if you are careful about the soaking. We have used them on our table for years done just this way.

TOMATOES.

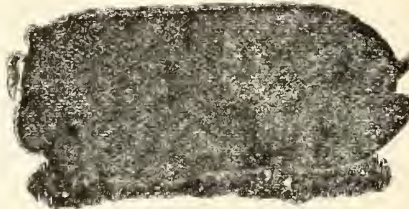
Gather the tomatoes before they are soft, but they must be thoroughly ripe. Pour boiling water over them and the skin slips off easily. Break them up and let them boil for about twenty minutes very hard, fill glass jars just as full as they will hold and screw the tops on while at boiling point, screw them tight and when they are cold screw them again and set them in a dark closet and you will hardly ever lose a can. These are for baking and for stews and such, but if you want them to serve whole with dressing, select firm tomatoes of uniform size and peel them with hot water very carefully. Pack them whole into either tin or glass jars and put in all the juice that has run from them and fill the jar with water, screw on the tops but not very tight, and set the jars into a boiler of cold water, (if you use glass jars put some hay or pieces of thin plank in the bottom of the boiler to prevent breaking the jars) let them come to a boil and boil steadily for half an hour, then open and let the steam escape, fill with boiling water and screw up as tight as you can, return to the water and boil for an hour. When you take them out screw them up again and after they are cold do it again. These will take the place of a salad in the winter and taste very much like the fresh ones.

TOMATOES AND CORN.

Prepare the tomatoes as for canning and let them boil till nearly done then add to each gallon of the tomatoes about three pints of corn. The corn must be very young and tender, cut it from the cob and stir it in with the tomatoes, let it boil about twelve min-

Duntreath*"Bred-in-the-Purple."**"The Very Best."***Berkshires...***The whole story in three words!*

Extra Choice Young Stock now ready for Shipment.
Large number of Litters of the best English and American breeding. **MONEY CANNOT BUY BETTER!**

DUNTREATH STOCK FARM, RICHMOND, VIRGINIA.**86 BERKSHIRE PIGS**

now ready for shipment; 10 to 12 weeks old, from directly imported sows or from sows of imported blood on both sides: sired by my 4 UNSURPASSED HERD HEADER BOARS from N. Benjafield, C. Collins Smith, James Lawrence and R. W. Hudson all of England. BRED SOWS, GILTS and ready-for-service BOARS. Prices as low or lower, than

those of any other STANDARD breeders, novices not reckoned.

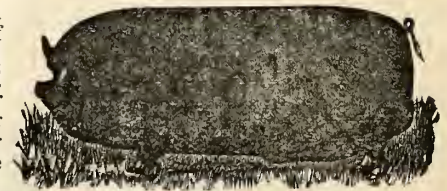
THOS. S. WHITE, Fassifern Stock Farm, LEXINGTON, VIRGINIA.**Large ENGLISH BERKSHIRES.****BOARS ready for service.****Pigs ready to ship.****Bred Gilts.**

**Forest Home Farm,
Purcellville, Va.**

We **positively guarantee** to breed and ship the **VERY BEST** strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for **LESS MONEY** than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.

**THE - OAKS - STOCK - FARM.****A. W. HARMAN, Jr., Prop.,**

We breed and ship the best strains of

Large ENGLISH BERKSHIRES

Send us your order and get the best.

6 coming 2 year old **JERSEY HEIFERS** for sale; also 2 fine Jersey Cows; 1 yearling heifer, a perfect beauty. Write for price.

ALEX. HARMAN, Mgr., Lexington, Va.

A neat Binder for your back num- bers can be had for 25 cents. Address our Business Office.

ANNEFIELD FARMS

BERKSHIRES AND HEREFORDS

PLACE ORDERS NOW FOR SPRING PIGS

and get choice selections. A few Fall pigs at a bargain
if sold at once. Prices reasonable. *o o o o o o*

EDWARD G. BUTLER.

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Briggs, Clarke Co., Virginia.

utes longer and fill the can, taking care that the mixture is boiling hot and that the cans are well filled. Screw on the tops at once.

CORN.

The corn to can must be just as tender as possible as the process toughens it. With a sharp knife cut it from the cob and weigh it carefully, put it into a kettle with enough water to cover and let it boil twenty minutes, then to ten pounds add one ounce of tartaric acid, let it boil a minute or two and fill the jars heaping full. Screw the tops tight and keep in a dark place. Be sure to soak the corn before using and you will find it as fresh as if just gathered. I have never known of any harm from using the acid, and it is the surest and easiest preservative I have found. Green peas may be canned in the same way and are a great help in the winter, especially in the country where we have no market to depend on. Plant a late patch and can them.

SOUP MIXTURE.

Peel and chop a half bushel of tomatoes. Let them boil and add to them a peck of chopped okra, and one gallon of finely chopped onion. Let these boil hard and stir carefully to keep from burning until all is reduced to a thick jam, then add a cup of celery seed, three-fourths of a cup of black pepper and let it boil awhile longer. Fill the glass jars and when it is cold screw on the tops or you may put it into a stone jar and when it is cold pour over it melted lard, half inch thick, tie up and keep in a cool place. A cup of this will season and thicken a pot of soup, and it is fine to dress broiled steak with. If you are not so fortunate as to have a row of okra in your garden use the tomatoes and onions this year and make a note of it, so that the okra will be ready next year. It is easy to raise and adds so much to the comfort of living, summer and winter.

BRUNSWICK STEW.

Corn and tomatoes and butter beans, if stewed together and canned give you Brunswick stew all the year round. You only have to add the chicken and potatoes and season as you like. Let the tomatoes and butter beans get almost done and then add the corn. Let it boil about ten min-

Hereford Cattle.

Sires in service: IMP. SALISBURY 76059 (19083); LARS JR. 85297.

My present offering consists of Bull Calves, Aged Bulls, tested and ready for service; breeding Cows in calf to above sires. These cattle are bred right and well developed and the prices are attractive. Call and make your personal selection or write. I have shipped Herefords, ordered by letter, satisfactorily into more than a dozen States.

Murray Boocock, Owner Castalia Herefords,
Keswick, Alb. Co., Va.

Bacon Hall Farm.

Hereford Cattle :- Berkshire Hogs

REGISTERED—ALL AGES.

Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

ROSEMONT HEREFORDS.

HEADED BY THE FAMOUS ACROBAT 68460,

Choice young stock for sale at all times. Visitors welcome.
Come and inspect the best herd in the South

ROSEMONT FARM. Berryville, Clarke Co., Va.



GLENBURN BERKSHIRES

.... FARM

This herd is composed of best IMPORTED and AMERICAN bred animals. Pigs from imported animals; also from granddaughters of such celebrated sires as FIRST CATCH F. An importation just received from England. Imported LOYAL HUNTER, bred by Mr. Hudson, Eng., and LEE TOPPER, a Loyal Lee, Highclere Topper boar, head the herd.
Dr. J. D. KIRK, Proprietor, Roanoke, Va.

IS YOUR FARM FOR SALE?

If so, list it with us. No sale, no charge.
Largest list of farms for sale in Virginia.
Write for Free Catalogue.

R. B. CHAFFIN & CO., (INC.) Richmond, Virginia.

utes, then put in the cans and screw tight. This keeps well.

BLACKBERRIES AND DEWBERRIES.

Among the most useful of all the canned things I find the small fruits and berries. They should be fresh, gathered the day they are put up. Pick them very carefully, and if you will pour them into a big pan of water and keep them under water you will find that your hands will not be stained. Put them on in a large kettle and add very little water, let them come to a hard boil and keep them boiling for ten minutes. Fill the jars full and screw as tight as possible at once. I use them for a vegetable, or for tea and if I want preserves I add a larger amount of sugar and cook them awhile.

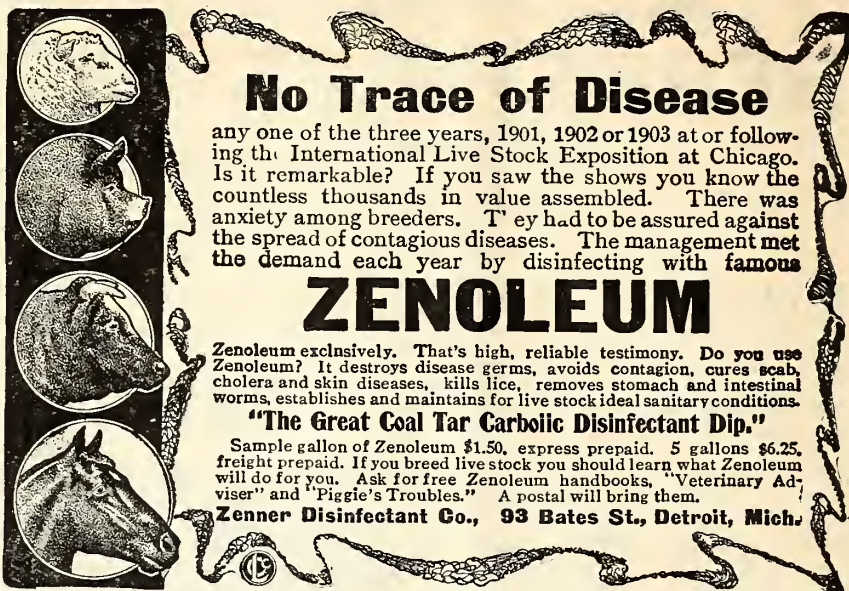
GREEN GRAPE JAM.

Gather the grapes just as they begin to turn. I like the green fox grapes best for this. Squeeze out all the pulp and seed and put them in a granite kettle to boil until the seeds separate easily, then rub them through a sifter to remove the seed. Return the pulp to the kettle and add the skins and as much sugar as there is of the mixture measuring pint for pint. Boil until it is a thick jam, stirring all the time to prevent burning. This is delightfully flavored, and is nice between the layers of cake and good to make puffs with.

GREEN GRAPE JELLY.

Cull the grapes from the imperfect bunches, pick off the stems and wash well, put them into a granite or porcelain kettle, and fill it two-thirds full of water. Let them boil to rags, being careful not to burn, the seed stick and burn almost before you know it. Pour them into a bag and let it drip. I usually let them drip all night. Measure the juice carefully and to each pint allow a pound of sugar. Put the sugar into the stove to heat and let the juice boil fifteen minutes, then add the hot sugar, and let it all boil five or ten minutes longer, put into glasses and do not seal until it is thoroughly cold. It is hard to have any set rule as to how long jelly must cook, for a great deal depends on the condition of the atmosphere, and also the state of the fruit so one has to depend on one's own judgment in making it. Sometimes it will jelly in ten minutes and then it will take more than a half hour. But it always repays the trouble we have in making it. CARAVEN.

You can't expect a soap that is made to remove dirt from your clothes to be a good shaving soap, but some men will use it and run the risk of serious skin trouble. The reason for this is that they have never felt the smooth, delightful effects of a shave with the creamy, thick lather made by Williams' Shaving Soap. See the advertisement elsewhere; take advantage of their sample offer and you'll never use any other.



No Trace of Disease

any one of the three years, 1901, 1902 or 1903 at or following the International Live Stock Exposition at Chicago. Is it remarkable? If you saw the shows you know the countless thousands in value assembled. There was anxiety among breeders. They had to be assured against the spread of contagious diseases. The management met the demand each year by disinfecting with famous

ZENOLEUM

Zenoleum exclusively. That's high, reliable testimony. Do you use Zenoleum? It destroys disease germs, avoids contagion, cures scab, cholera and skin diseases, kills lice, removes stomach and intestinal worms, establishes and maintains for live stock ideal sanitary conditions.

"The Great Coal Tar Carbolic Disinfectant Dip."

Sample gallon of Zenoleum \$1.50, express prepaid. 5 gallons \$6.25, freight prepaid. If you breed live stock you should learn what Zenoleum will do for you. Ask for free Zenoleum handbooks, "Veterinary Adviser" and "Piggie's Troubles." A postal will bring them.

Zenner Disinfectant Co., 93 Bates St., Detroit, Mich.

...Jersey and Guernsey Heifers... FOR SALE

Berkshire sows due to farrow in April and May, several boars large enough for service, pigs in pairs or trios not akin.

EGGS FOR HATCHING from Bronze turkeys, Pekin ducks, B. P. Rock and Brown Leghorn fowls. A few trios for sale, also a fine lot of Fox Terrier puppies by imported Rozanne.

M. B. ROWE & CO., Fredericksburg, Va.

Reg. HOLSTEIN-FRIESIAN

CATTLE of the Netherland, De Kol, Clothilde, Pietertje and Artis families. Heavy milkers and rich in butter fat. Stock of all ages for sale.

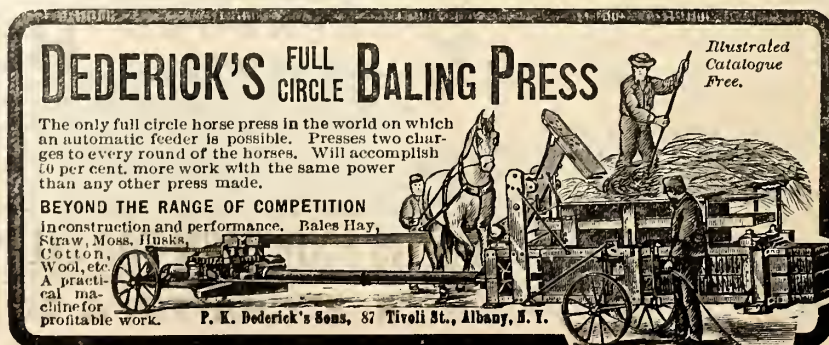
Reg. BERKSHIRES From noted strains; Imported Headlight, Lord Highclere and Sunrise.

DORSET SHEEP

B. PLYMOUTH ROCK CHICKENS,

N. & W. and Southern R. R.

T. O. SANDY, Burkeville, Va.



DEDERICK'S FULL CIRCLE BALING PRESS

The only full circle horse press in the world on which an automatic feeder is possible. Presses two charges to every round of the horses. Will accomplish 50 per cent. more work with the same power than any other press made.

BEYOND THE RANGE OF COMPETITION in construction and performance. Bales Hay, Straw, Moss, Husks, Cotton, Wool, etc. A practical machine for profitable work.

P. K. Dederick's Sons, 87 Tivoli St., Albany, N. Y.

Illustrated Catalogue Free.

ALFALFA

The Most Useful and Profitable Crop you can grow. The best time to sow (in the South) is from August 15th to September 15th.

Prepare your Ground carefully and to insure a stand USE ALFALFA BACTERIA INFECTED SOIL as recommended by the Agricultural Experiment Stations.

You can obtain enough of this infected soil to inoculate ONE ACRE OF GROUND FOR \$1.00 per bag (about 2 bushels) F. O. B. EWELL FARM.

Send in your orders now and shipment will be made when you are ready.

A booklet, giving practical directions for raising Alfalfa sent with each order, Address

GEO. CAMPBELL BROWN,

EWELL FARM, Spring Hill, Maury Co., Tenn.

PIGGIES TROUBLES.

This is a neat booklet that should be read by all hog raisers as well as stockmen in general.

Knowing of the enormous loss of swine from cholera, the Zenner Disinfectant Company, 93 Bates street, Detroit, Michigan, have secured very valuable information on this subject from several of the best known specialists of bacterial diseases, as well as most successful swine breeders in the country. It contains a list of diseases swine are likely to contract, and gives treatment for each one, telling how to distinguish diseases by the symptoms, and what to do to relieve the trouble.

It is neatly printed, compact, convenient in size, and written in language that the farmer will easily comprehend. Every owner of swine should have one of these books, and there is no reason why one should not be kept for ready reference, for the publishers offer to send one absolutely free to the readers of this publication who ask for one. It is worth dollars to every one who has sick and ailing hogs, no matter what the trouble may be.

A VALUABLE POSTER FREE.

Our well known advertisers, The International Stock Food Co., send us a valuable poster containing two tables, one of which gives the average duration of pregnancy in the mare, and the other showing dates on which the mare should be returned to the stallion. As these posters are free to all brood mare or stallion owners, we suggest that all such of our readers send for one at once before the supply is exhausted. Before sending, however, better refer to this company's ad on another page and answer a couple of simple questions therein propounded, and get a valuable stock book free at the same time.

It will pay you well to take ten minutes to read the little book on "Wheel Sense," just issued by the Electric Wheel Co., Quincy, Ill. It tells about saving lots of hard work and repair bills.

SUNNY HOME HERD OF

ABERDEEN-ANGUS CATTLE.

BARON ROSEBOY 57666.

By the sire of the \$3,000 "GAY LAD," the noted "GAY ERIC," for years at the head of the "Bradfute" herd of Ohio; "Hector of Lakeside," at head of one of the best herds in Michigan; and a half dozen other great herd bulls at head of the herd. 47 registered females by some of the most noted sires in America. We point with pride to a long line of satisfied customers in Indiana, Ohio, West Virginia, Maryland, Virginia, North Carolina, South Carolina, and Mississippi. We have been engaged in breeding choice Angus for years, and are prepared to give our customers the benefit of our experience. As to the individual quality of our cattle, will state that we have sold recently five bulls to head registered herds. This speaks for itself. Write for what you want of either sex to A. L. FRENCH, R. F. D. 2, Byrdville, Va.

Depot, Fitzgerald, N. C. D. & W. R'y 24 miles from Danville, Va.

SPRING LITTERS.

We have now coming ready for shipment seven litters of

LARGE YORKSHIRE PIGS

All recent experiments place this breed in front, as the best and most profitable bacon hog. They will raise 40 per cent more pigs and they will grow faster and make more pork in a given time than any other breed.

Also BULLS, YOUNG COWS and HEIFERS from our great JERSEY COWS.

BOWMONT FARMS. Salem, Va.

Stock Bargains AT "THE OAKS"

Having decided to locate in a Western State, I offer for 1 MONTH ONLY, the sensational yearling Bull, "LAMPLIGHTER." He will be ready for the Fall Shows. Also 4 Reg. SHORTHORN COWS, milking strain, 3 have calves at side; one gives 3 gals. milk per day after feeding a big, lusty Bull calf all he wants. B. B. BUCHANAN, Bedford City, Va.

ORGANIZED 1832.

ASSETS, \$932,050.00.

Virginia Fire and Marine

Insurance Company, of Richmond, Va.

Insures Against Fire and Lightning.

All descriptions of property in country and town, private or public, insured at fair rates, on accommodating terms.

AGENCIES IN EVERY TOWN AND COUNTY.

W. H. PALMER, President.

W. H. McCARTHY, Secretary.

ZENOLEUM BULLETIN NO. 107.

This is the title of a little circular sent us by the Zenner Disinfectant Co., who are the makers of Zenoleum, which is advertised elsewhere in this issue.

The pamphlet referred to is a brief digest of Bulletin No. 62, of the Oklahoma Experiment Station, which gives a record of tests made with numerous disinfectants. The result of these experiments is very highly favorable to Zenoleum. We suggest that interested parties write for the pamphlet.

CORRECTION.

We wish to call attention to an error in the ad of Magic Death Powder in our last issue. The type made the ad read, "Send 25c for a book"; whereas it should have read, "Send 25c for a box."

This insecticide is made by the Magic Food Co., Chattanooga, Tenn., and we invite attention to the corrected ad.

POISON-SUMAC.

There are several species of sumac, and most of them are harmless, but if we do not know one from the other we are apt to feel uncomfortable in the presence of any of them. The poisonous species may be readily distinguished from either the smooth sumac or the stag-horn sumac by reason of the fact that the leaflets of these species are saw-edged, while those of the poison-sumac are "entire"—that is, without teeth or lobes. The one other species with which it may be confused is the mountain sumac; but as in this shrub the leaf-stems are widened out into so-called "wings," it need not be mistaken for its dangerous relative, whose stems are wingless. The poison-ivy, a near relative of the poison-sumac, though usually a creeper, is classed with the shrubs, and sometimes becomes one when it happens to grow in a spot where there are no supports for its aerial rootlets. This plant has compound leaves with three leaflets, a fact which enables us to distinguish it at once from the Virginia creeper, which has five leaflets, and from the bittersweet, which has from seven to nine.—July Woman's Home Companion.

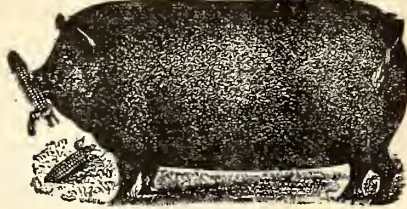
GLENBURN BERKSHIRES.

Dr. J. D. Kirk, proprietor of Glenburn Farm, Roanoke, Va., writes us that at present he has two imported Berkshire sows in quarantine at Athena, N. J. The addition of these two sows to his herd of American bred and imported Berkshires will give him one of the very best herds in the State. As Dr. Kirk has only recently offered his stock for sale, we suggest to our readers that they write him when in need of anything in Berkshire blood. Note his ad on another page.

"HOG LOGY" MY BOOK FREE

This could be aptly called a text-book on hog raising for the novice as well as the adept. Compiled by a specialist, who has devoted nearly thirty years to the study of profitable swine raising. It is practical and complete, and should be in the hands of every hog owner. FREE, if you mention the Southern Planter when asking for it.

I WILL INSURE YOUR HOGS



CASH FOR ALL THAT DIE

TRADE MARK.

Full particulars of my insurance proposition, whereby I pay for all hogs that die when my remedy is fed as a preventive, are given in "Hogology." This great remedy has stood the severest tests for more than twenty-eight years, and is the peer of all preparations for hogs. Prices: 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

JOS. HAAS, V. S., Indianapolis, Ind.

CISMONT DORSETS

CISMONT STOCK FARM offers well developed young Dorsets of the best blood of England and America.

Prices Reasonable.

G. S. LINDENKOHL, Keswick, Albemarle Co., Va.



EDGEWOOD STOCK FARM DORSETS! DORSETS!

You men in the early lamb business need Dorset blood. No lamb grows like a grade Dorset. Grade Dorset ewes will lamb in December.

One cross will bring results. Try a Dorset ram. Our fall lambs are beauties. Write us or come to see them.

J. D. and H. B. ARBUCKLE, Maxwilton, Greenbrier, Co., W. Va.

CHARTERED 1870.

MERCHANTS NATIONAL BANK

OF RICHMOND, VIRGINIA.

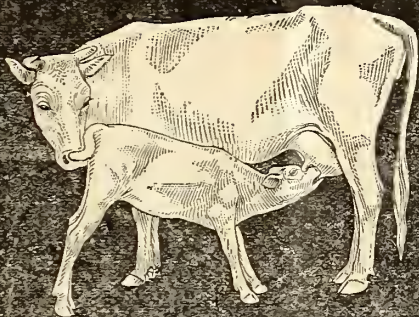
CAPITAL.	- - -	\$200,000.00.
SURPLUS.	- - -	\$300,000.00.
UNDIVIDED PROFITS.	-	\$361,000.00.

Depository of the United States, State of Virginia, City of Richmond.

Being the Largest Depository for Banks between Baltimore and New Orleans, we offer superior facilities for direct and quick collections; accounts solicited.

JNO. P. BRANCH, Pres. JNO. K. BRANCH, Vice-Pres. JOHN F. GLENN, Cash
Assistant Cashiers; J. R. PERDUE, THOS. B. McADAMS, GEO. H. KEESEE.

When corresponding with our advertisers always mention the SOUTHERN PLANTER.



3 FEEDS FOR ONE CENT

"INTERNATIONAL STOCK FOOD" **3 FEEDS FOR ONE CENT** Won the Highest Medal at Paris Exposition in 1900 as a High-Class Medicinal Preparation, made from powdered Roots, Barks, Seeds and Herbs, to give to Horses, Cattle, Sheep, Goats, Colts, Calves, Lambs and Pigs, in small amounts as an addition to their regular grain feed to secure better digestion and assimilation so that each animal will obtain more nutrition from all grain eaten. Scientific authorities prove that the average animal digests 55 per cent. of the average kind of feeds. "International Stock Food" will cause them to digest 70 to 75 per cent. We paid the government \$40,000.00 war tax because "International Stock Food" was a high-class medicinal preparation. Many other kinds did not pay any war tax because they claimed to the government that they did not use medicinal ingredients and did not claim medicinal results. You can afford to use preparations of this kind Only On A Medicinal Basis. "International Stock Food" purifies the blood, "tones up" and permanently strengthens the entire system. It cures or prevents many forms of disease. It will save you \$10.00 per year in the Feed of Every Horse You Work and its use will only cost you \$2.50 per year. It saves grain and 30 to 60 days' time in growing and fattening all kinds of stock and is endorsed by over one million farmers who have used it for fifteen years. It is absolutely harmless even if taken into the human system. Beware of the many cheap and inferior imitations and substitutes. No chemist can separate and name all of the ingredients we use. Any company or chemist claiming to do so is a Self-Confessed Quack or a Paid Falsifier. Insist on having the genuine "International Stock Food." It is sold by 100,000 Dealers on a "Spot Cash Guarantee" to Refund Your Money if it ever fails to give you satisfactory, lasting results and its use only costs you **3 FEEDS FOR ONE CENT.** We have Factories at Minneapolis and Toronto, Canada.

QUICKLY CURES SCOURS.

INTERNATIONAL STOCK FOOD Co., Minneapolis, Minn. ESSEX, VERMONT.
GENTLEMEN: I have used "International Stock Food" for calves with great results. I tested it on my calves that had the scours, and they were quickly cured. I would not raise calves without "International Stock Food."
Very truly,
EDWARD DRURY.

QUICK CALF GROWER.

INTERNATIONAL STOCK FOOD Co., Minneapolis, Minn. PENNVILLE, MICHIGAN.
DEAR SIRS:—"International Stock Food" is highly recommended by the farmers in this vicinity. We use it and find it of great value in stock raising, especially cattle. Calves fed on "International Stock Food" grow faster and are of better quality than those that are not. On feeding it to our cows we find that they not only require less of the regular feed but "International Stock Food" increases the quantity of milk.
G. CHAPMAN.

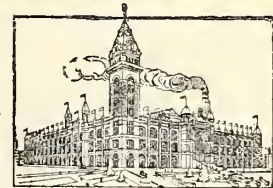
Beware of Inferior Imitations and Substitutes. Write Us About "International Stock Food." We Have Thousands of Testimonials and Will Pay You \$1000 Cash If They Are Not Genuine.

A \$300000 STOCK BOOK FREE

IT CONTAINS 183 LARGE ENGRAVINGS

WE WILL PAY YOU \$10.00 CASH IF BOOK IS NOT AS DESCRIBED

The Cover of this Book is a Beautiful Live Stock Picture Printed in Six Brilliant Colors, and Without Any Advertising on It. Size of Book is 6 1/2 by 9 1/2 inches. It cost us \$3000 to have our Artists and Engravers make these Engravings, which are the finest engravings of Horses, Cattle, Sheep, Goats, Hogs and Poultry that you have ever seen. These 183 Engravings are all made from actual photographs and are worthy of a place in any library. It also gives Description, History and Illustrations of the Different Breeds of Horses, Cattle, Sheep, Goats, Hogs and Poultry. It contains Life Engravings of many very noted Animals. It contains a Finely Illustrated Veterinary Department that Will Save You Hundreds of Dollars, because it describes all common diseases and tells you how to treat them. The Veterinary Illustrations are large and absolutely reliable. Correspondence promptly answered as we have an office force of 200 including 100 typewriters.



Largest Stock Food Factory in the World.
Capital Paid in \$2,000,000.00.
This Engraving Shows Our New Factory.
It Contains 18 Acres of Floor Space.

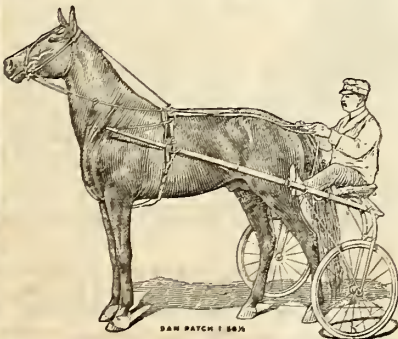
WE WILL MAIL BOOK TO YOU FREE POSTAGE PREPAID

If You Will Write Us At Once, Letter or Postal Card, and ANSWER THESE TWO QUESTIONS:

1st.—NAME THIS PAPER.

2nd.—HOW MUCH STOCK HAVE YOU?

ADDRESS AT ONCE..... **INTERNATIONAL STOCK FOOD CO., MINN., U. S. A.**



DAN PATCH 1:56 1/4

FASTEST HARNESS HORSE IN THE WORLD

Dan Eats "International Stock Food" Every Day and

HOLDS FOLLOWING WORLD RECORDS:

Mile Record, 1:56 1/4 Mile Record on Half-Mile Track, 2:03 1/2 Mile Record to High Wheel Sulk, 2:04 3/4
Half-Mile Record, 0:56 Mile Record to Wagon, 1:57 3/4 Two-Mile Record, 4:17

HIS BEAUTIFUL COLORED PICTURE FREE

Printed in Six Brilliant Colors--Size 21 by 28 inches

We own the World-Famous, Champion Pacing Stallion, Dan Patch, and have Fine Lithographs of him. They give complete record of all his Races and Fast Miles and are Free of Advertising. The large Colored Lithograph will show Dan hitched as you see him in this engraving.

IT WILL ALSO BE MAILED FREE--Postage Prepaid

IF YOU ANSWER THE "TWO QUESTIONS" AND SEND FOR BOOK DESCRIBED ABOVE.

READ THESE RAPIDLY.

There was a young fellow named Tate,
Who was invited to dine at 8.08.
Now, I will not relate
What this young man named Tate
And his tete-a-tete ate at 8.08.

"There's a train at 4.04," said Miss Jenny;
"Four tickets I'll take. Have you any?"
Said the man at the door,
"Not for 4.04,
For four for 4.04 is too many."

DO YOUR TRADING

Where an established reputation warrants continued confidence. The name of LUMSDEN on anything in the JEWELRY or SILVERWARE line is a STANDARD of QUALITY.

**FINE GOLD AND DIAMOND JEWELRY,
STERLING SILVERWARE AND CUT GLASS.**

SIX SOLID STERLING SILVER TEA SPOONS, \$3.30. Write for our catalogue; it contains many articles on which we can save you money.

C. LUMSDEN & SON, Established 1835, 731 East Main Street, Richmond, Va.

LITERARY TALENT OF RICHMOND.

MARY WASHINGTON EARLY.

Richmond has never lacked literary talent. Even in her early days, she always had a good sprinkling of authors, and in addition to her native ones, a good many other Virginia authors have made Richmond their home, and have thus identified her with their literary fame. For instance, Edgar Poe made his residence here for a considerable part of his life, so Richmond will be, in future ages, the Mecca of travellers who appreciate his genius and this the world is beginning to do more and more highly, each successive year. I well remember how stately and restful the fine old Allan home looked, on the corner of Main and Fifth streets, in such vivid contrast with the hum and buzz of business, a little lower down the street. It saddens me now to think that the walls which enshrined America's greatest poet have been pulled down, still the spot will always be one of keen interest to those who prize letters.

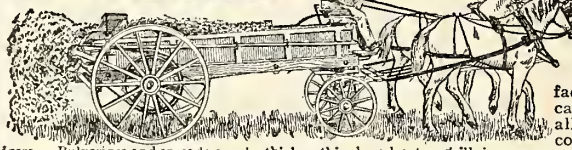
One of the earliest of the Richmond authors was the illustrious William Wirt, the distinguished jurist and at one time the Attorney General of the United States. Literature, however, was only an episode in Mr. Wirt's busy and strenuous life. I do not know the exact date of his birth, but I believe it was just before the outbreak of the Revolution. He was twice married, first to Miss Gilmer, of Albemarle county, Va., in 1795, but she died in 1799. His second wife was a Miss Gamble, of Richmond. He was the author of "The British Spy," and the life of Patrick Henry. The latter is one of the most valuable of our biographies, and is justly regarded as one of the classics of American literature. No writer ever set about the task of writing a biography in a more painstaking spirit. The idea of writing it first occurred to him in 1805, but as he had not known Henry personally, he was compelled to draw his information from others. From that time till 1814, he employed such leisure as his professional duties allowed him in collecting materials for the work from the remaining friends and contemporaries of Henry, amongst whom we may mention Thos. Jefferson, Gov. Page, Judge Tucker, Judge Roane, Mr. Peyton Randolph, Col. Wm. O. Winston, Col. Meredith and other distinguished old Virginians. Gov. Page gave him great help by letting him read an extended sketch he had himself prepared of Patrick Henry, and Mr. Peyton Randolph allowed him to examine an extremely valuable manuscript history of Virginia written by his father, Edmund Randolph, which history embraced the whole period of Henry's public life. In addition to private sources of information, Mr. Wirt had the good fortune to procure complete files of the public newspapers from 1765 to the close of the Revolution. He also had free access to the records

\$21.00 PRICE EXPLAINED
FOR \$21.00 TO \$23.00 also ROAD WAGONS at \$14.00 to \$17.00, SURREYS at \$34.00 to \$38.00.
 TOP BUGGIES, similar to one illustrated, HAVE BEEN WIDELY ADVERTISED.
 HOW BUGGIES can be offered at these prices and why we can sell other vehicles at much lower prices than any other house is all fully explained in our Four Big Vehicle Catalogues. Cut this ad. out and send to us and you will receive by return mail, Free, Postpaid, Four Big Vehicle Catalogues showing the most complete line of everything in Buggies, Road Wagons, Carts, Surreys, Phaetons, Carriages, Light and Heavy Wagons, Vehicles of all kinds, also everything in Harness, Saddles and Saddlery, all shown in large handsome lifelike illustrations, full descriptions and all priced at much lower than any other house can possibly make.
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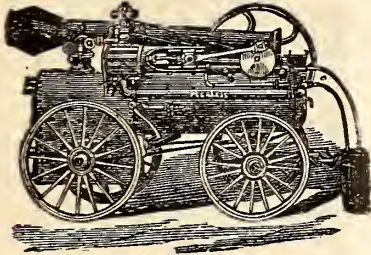
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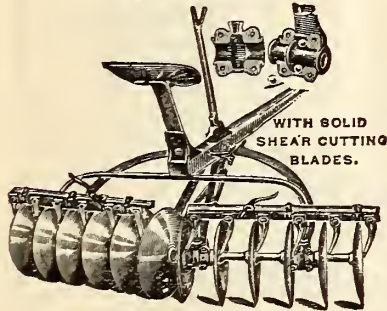
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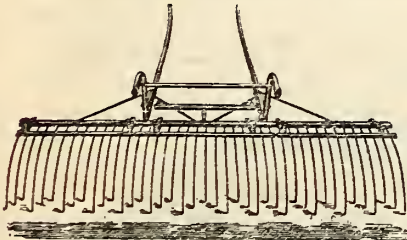


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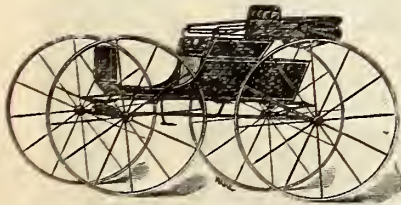
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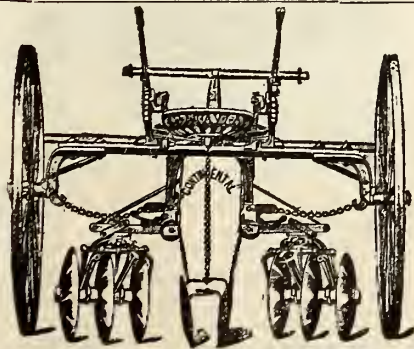
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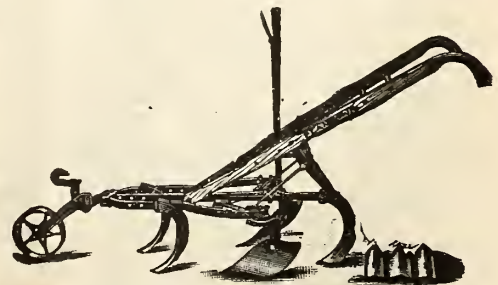
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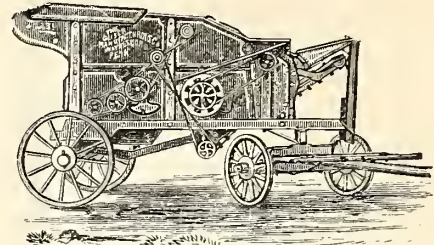
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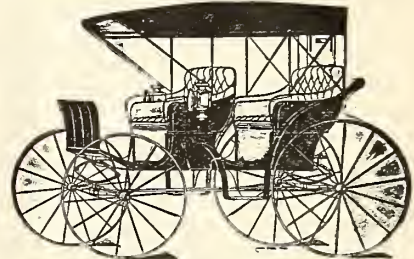
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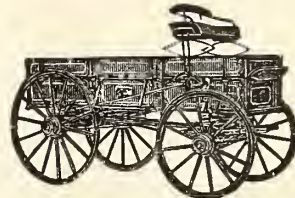
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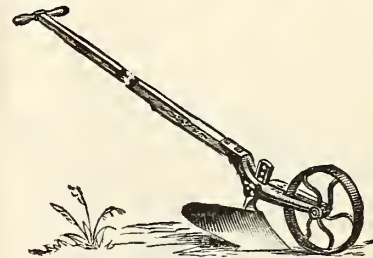
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of the General Court and the State archives. But even after he had during nine years carefully collected materials from all these sources, it required three more years to sift all this mass, remove the chaff from the wheat and reconcile the discrepancies, real or apparent, and out of the heterogeneous mass of materials piled up before him, construct a well proportioned building on a solid foundation of well ascertained truth. Mr. Jefferson proved a valuable assistant when Mr. Wirt was perplexed, his clear judgment and able counsel, added to his personal knowledge of the character and times of which Wirt proposed to treat, helping the latter to reconcile apparent contradictions and to clear away difficulties of fact. The work was at length published in 1817, and was so favorably received that it had a large circulation. Your correspondent has a copy published in Philadelphia in 1836 and belonging to the ninth edition, which was a great circulation for those times. William Wirt died in 1834. He was fortunate in having an able biographer, John P. Kennedy, who in his intervals of rest from professional and political duties, wrote "The Life and Correspondence of Wm. Wirt," in two volumes, 1849.

Another early author of Richmond was Robert R. Howison, born in that city on June 22d, 1820, a lawyer and author of high standing. His works are the following: "History of Virginia, from its discovery and settlement by Europeans to the present time," 2 octavo vols., 1847; "Lives of Gens. Morgan, Marion and Gates," 1848; "History of the War between the United States and the Confederate States;" "Report of the Joint Committee of the Confederate Congress on Treatment of the Prisoners of War." The above report was republished in various Northern papers and is given in full in Pollard's "Lost Cause." Howison took high rank with the historical writers of the South, Gayarre and men of that stamp.

Another of Richmond's historical writers is Dr. R. A. Brock, born in that city March 9th, 1839. From his early youth, he showed the bent of an antiquarian, but he was bred to mercantile pursuits, and followed these till 1881, except during the four years when as a member of the famous "Company F" he served in the war. In 1881, he disposed of his interest in business in order to give more attention to the Virginia Historical Society of which he had been librarian and corresponding secretary since February, 1875. In 1887, he became secretary of that Society and has performed a very useful and valuable work in ed-



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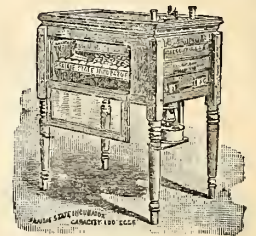
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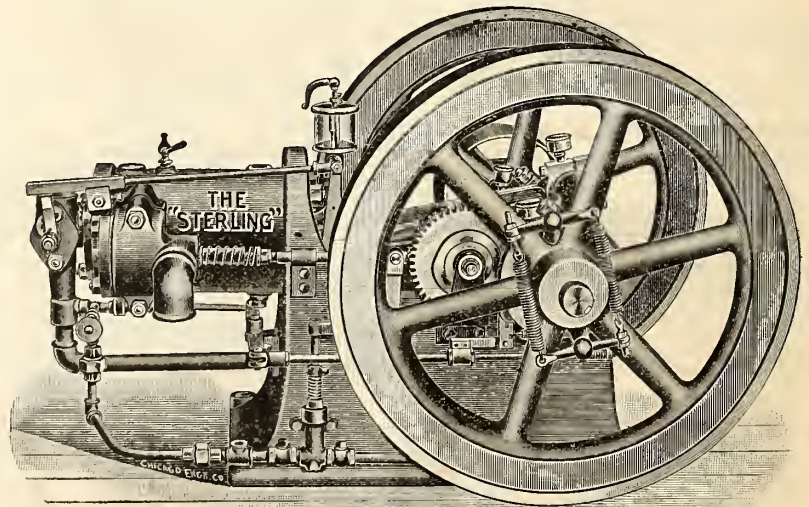
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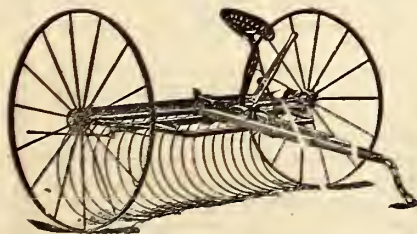
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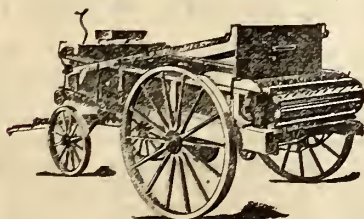


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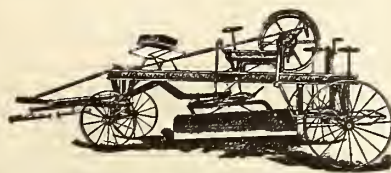
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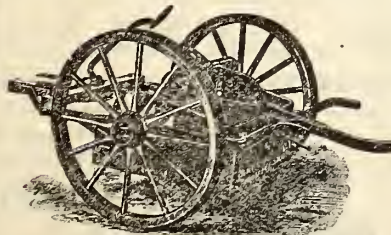
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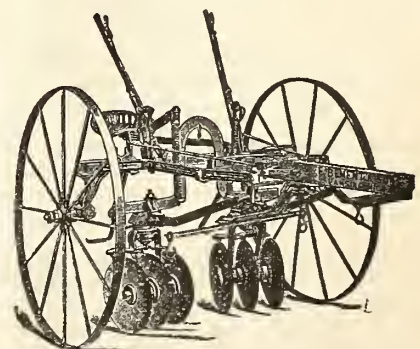
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iting the series of volumes issued by the Virginia Historical Society. In addition to this, he has prepared other historical, antiquarian and genealogical works, besides various statistical and historical papers for the United States, and for his native State and city. His labors have met with marked recognition, he having been invited to become a member of numerous learned societies in the United States, Canada and Europe. In addition to other duties, he holds the position of secretary and historiographer in the association formed of the survivors of "Co. F." He has also, from his boyhood up, been a frequent contributor to the press and to various magazines. From 1879 to 1882, he was one of the editors of "The Standard," a family paper published in Richmond, with a historical, genealogical and scientific department. He is indeed filling a useful place giving valuable aid in preserving historical records and in sifting the wheat from the chaff.

Amongst the ante-bellum writers of Richmond there was Mr. Samuel Mordecai, author of "Richmond in by-gone days," a valuable book of reference for those who would gain light on the past social life of Richmond. There has always been a circle of cultured, refined and intellectual Jews in Richmond who have had the entree into the best "Gentle Society" and who have commanded the respect and esteem of the community, and to this class Mr. Mordecai belonged. I might cite the illustrious Sir Moses Ezekiel as an example of this class in more recent years.

In addition to the native authors of Richmond, there have been a good many who while not born there have made it their residence and identified themselves with the place and people. John Esten Cooke was an instance of this. Though born in Winchester, Va., his father moved to Richmond while the boy was still very young, so he grew up and was educated in that city. At nineteen, he left school, studied law, was admitted to the bar and practised four years. He then gave up that profession to devote himself entirely to literature which he did all the remainder of his life, except during the four years when he served in the army. This proved, in the long run, no detriment to his literary career, as it enabled him to lay up a great store of material for future romances, as for instance, "Surry of Eagle's Nest," "Hilt to Hilt," "Mohun" and others. Besides his numerous novels, he also wrote a life of Robert E. Lee, and a history of Virginia for the young, besides editing the life of Capt. John Smith. He died September 27, 1886.

Thos. Nelson Page though born in Hanover county, 1853, entered on the profession of law in Richmond, he being one of the numerous authors who have prefaced their literary career by the study and practice of the law. His first story, "Marse Chan," made al-

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most as great a hit as "The Luck of Roaring Camp." His subsequent career is so well known that I need not go into any details about it now.

Another writer, pleasantly identified with Richmond, though not a native of the place was Mrs. Anna Cora Ritchie, a woman not only of talent and culture but of a personality that made her more charming than her books. She was a native of the State of New York, but came to Richmond as the wife of Mr. Wm. Ritchie, editor of the Enquirer. Mrs. Ritchie's pen took a wide range as she wrote novels, plays, sketches and other works, besides an autobiography.

PROCEEDINGS OF THE EAST TENNESSEE FARMERS' CONVENTION.

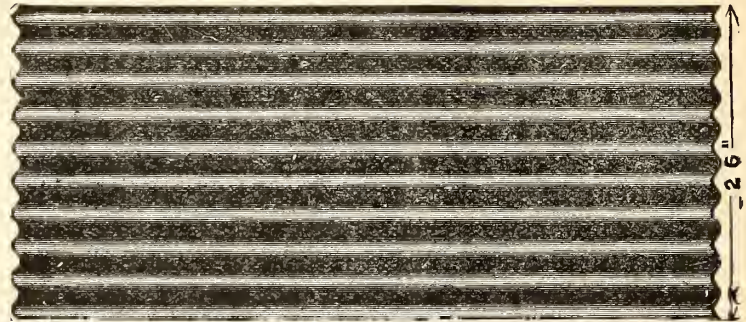
The 29th annual gathering of East Tennessee farmers was held in the auditorium of Science Hall, University of Tennessee, Knoxville, June 1, 2 and 3. The attendance as heretofore was a representative one, a good many delegates coming, not only from Middle and West Tennessee, but from neighboring States as well. The hall was crowded throughout the different sessions and the enthusiasm manifested was good to see for it spoke volumes for the aggressive spirit that now pervades the farmers of the Middle South. It is also an evidence of the fact that they appreciate the educational value of meetings of this kind. The speakers at the different sessions were given the close attention which the many excellent papers presented deserved. It has always been the policy of the Convention to try and provide a varied program and to secure the services of a number of recognized specialists to discuss certain topics so that the latest and best information relative to the various branches of agriculture may be presented before the Convention.

It is impossible in this brief review to more than mention some of the leading speakers, though it is proper to say that the discussions following the different papers were spirited and were of great service in elucidating many points of great value to the average farmer which were not fully set forth in the different papers. It has been the writer's privilege to attend conventions in many sections of the country, but he has rarely if ever seen a more representative body of men gathered together in an agricultural meeting, nor a set of men who discussed agricultural subjects with a greater degree of intelligence. In other words, the present Convention was not a speakers' Convention.

The program was carried out practically as published, though Governor Frazier could not be present on account of his official duties which was a great disappointment. Fortunately, the services of Dr. H. J. Webber, in charge of the Plant Breeding Laboratory at Washington, were secured and

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Soaps, 8, 7, 6, 10 and 11 bars for.....	25c.	London Dock Gin, 5 years old, per gallon.....	2.50
Large Cans Tomatoes, per can.....	7c.	Wilson Whiskey, per bottle	1.00
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he gave a very able and entertaining lecture on the results of his investigations. In this lecture he showed clearly the great importance of selecting plants for many purposes and he demonstrated not only the feasibility of this work on the average farm, but the great financial gain that would result to the farmer.

Prof. M. A. Carleton, Cerealist of the U. S. Department of Agriculture, spoke on the growth of cereals in the Appalachian region. He referred to the excellent work that had been done at the Tennessee Experiment Station with wheat, barley, oats and rye, and stated that in his opinion these crops could be grown quite generally throughout this region. The points emphasized were better soil culture and the selection and improvement of the various varieties in common use. It is proper to state that the Tennessee Experiment Station hopes to distribute a small amount of the different varieties of improved seed at an early date.

Mr. R. H. Kittrell, State Live Stock Commissioner, delivered an address on Tennessee's Interest in Live Stock. He stated that Texas fever caused the loss of at least \$100,000 a year to the farmers of East Tennessee and urged the farmers to co-operate with him so as to hold the pest in check. He saw no reason why a number of counties should not be placed above the quarantine line if greater care were exercised. He also urged the farmers to improve their live stock.

Hon. W. W. Ogilvie, Commissioner of Agriculture, next spoke on Feeding Mules. He stated that Tennessee mules brought from \$10 to \$15 more per head than mules from any other State. This was due largely to the method of feeding pursued. The mule breeders should give greater attention to size at the present time. Jacks should be 11 1-2 to 15 hands in height and have broad feet and chests and plenty of style. Plenty of green feed was necessary for the summer feeding. Sorghum should not be used during the finishing period as it made the hair too long. Otherwise, it was an excellent feed. Mr. Ogilvie's address was given the most careful attention because of his well known reputation as a successful mule breeder.

Dr. W. G. Shaw, consulting veterinarian of the Tennessee Station, spoke on Animal Diseases. He outlined those he has commonly met with in Tennessee and gave a concise resume of the treatment suggested for each. Milk fever was discussed very thoroughly and the relative merits of the Schmitt and Oxygen treatment were brought out.

Dr. M. Jacob gave a lecture on Type of Horses in Demand at the present time. This was illustrated by specimens of roadster, coach, saddle and draft horses. The large audience gave him the closest attention for if there is one thing the Tennessee farmer

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loves it is a good horse and rightly. The horse judging contest followed immediately. There was a nice display of horses and in the judgment of the crowd the best horse won, so all went home satisfied and feeling well repaid for their time and trouble.

At the evening session Mr. W. T. Roberts, of Riceville, read an able paper on "Keeping the Boys on the Farm." He advocated the value of agricultural instruction as provided in the University and urged the farmers to send their sons to take the short course at least if they could not take the four years' course. Prof. Bain, of the Tennessee Experiment Station, delivered an illustrated lecture on the diseases of the various farm crops in the absence of Prof. C. L. Marlatt, who was prevented from attending the meeting through sickness. Prof. Bain's lecture was well received as shown by the many questions directed to him during the lecture.

The Mountain Range for Beef Cattle was discussed by Major A. D. Reynolds, of Bristol. He stated there were greater opportunities offered in the Appalachian region for the development of live stock industries than anywhere else in the country. The range was abundant, there was plenty of freestone water, the heat was not excessive, and the fly pest was practically unknown. Why this great grazing region had been so long overlooked he was unable to say.

Mr. H. W. Crew, of Concord, Tenn.,

next addressed the Convention on Feeding Beef Calves. He emphasized the importance of grazing crops and stated that he found the Soy bean invaluable. He turned the calves on when it was comparatively young and if not grazed too closely, it continued to grow until frost.

Herefords on the Range was the subject discussed by Mr. J. Otto Kittel, of Herbert, Tenn. Mr. Kittel's ranch is situated on the Cumberland Plateau in a region where people believed that good cattle could not be raised. The excellent specimens he has produced in the last few years show this statement to be absurd, and for the sake of this region it is to be hoped that many breeders will emulate his example. Mr. S. S. Smith, of Whitesburg, volunteered a few remarks on Polled Durhams, and told interestingly of his experience with this breed and their adaptability to Tennessee conditions.

Mr. G. B. Wheeler, of Morristown, spoke on Farm Butter Making. He urged cleanliness and advised the discarding of rags and the use of brushes instead. He told how to milk the cows to secure the best results and of the importance of sanitation in and about the dairy. He said that first class butter would bring 30 cents all the year round, whereas, most farmers were getting 15 cents. Mr. Wheeler is a graduate of an agricultural short course and a thoroughly up-to-date farmer. Mr. W. G. Lenoir, of Phila-

delphia, spoke on Shipping Milk for the City Trade. Cleanliness, good water and expedition in handling were the points emphasized. He said that though milk was often shipped one hundred miles even in this section of the South it could be kept in good condition when properly handled.

Mr. S. E. Barnes, of the Tennessee Experiment Station, spoke on the importance of herd records. He said the gross earnings of the station herd three years ago were \$2,800, and for the present year they would be more than \$4,500. This was due to the keeping of a record and the weeding out of unsatisfactory animals.

Prof. C. S. Plumb, of the Ohio State University, next addressed the Convention on Experiments in Hog Feeding. His address was a masterly one and was listened to with rapt attention. He reviewed the whole history of experimental hog feeding in the United States and gave a statement of the comparative value of the various grains, manufactured by-products and forage crops for pork production. Mr. J. B. Madden, of the East Tennessee Packing Co., told what the packers wanted. He said they wanted to run their plant all the year, but could only get enough animals for about six months. They wanted from 175 to 300 pound hogs well fattened and also more beef and better beef.

(To be continued.)

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The Sun, Baltimore, Md.....	3 00	3 40
Chicago Live Stock World.....	4 00	3 50
News-Leader, Richmond, Va.....	3 00	3 00
TRI-WEEKLY.		
The World (thrice-a-week), N. Y... 1 00	1 00	1 25
WEEKLIES.		
Harper's Weekly	4 00	4 00
Montgomery Advertiser	1 00	1 00
Nashville American	50	75
Breeder's Gazette	2 00	1 75
Hoard's Dairyman	1 00	1 35
Country Gentleman	1 50	1 75
Religious Herald, Richmond, Va....	2 00	2 25
Times-Dispatch, Richmond, Va.....	1 00	1 25
Central Presbyterian, " "	2 00	2 25
Horseman	3 00	3 00

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Wool Markets and Sheep	50	75
Dairy and Creamery	50	75
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All three	1 50	1 15
North American Review	5 00	5 00
The Century Magazine	4 00	4 25
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Lippincott's Magazine	2 50	2 50
Harper's Magazine	4 00	4 00
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Scribner's Magazine	3 00	3 25
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Cosmopolitan Magazine	1 00	1 35
Everybody's Magazine	1 00	1 35
Munsey Magazine	1 00	1 35
Strand Magazine	1 25	1 65
McClure's Magazine	1 00	1 35
Argosy Magazine	1 00	1 35
Review of Reviews	2 50	2 75
Poultry Success	1 00	75
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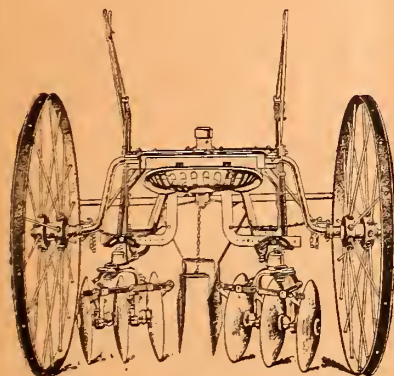
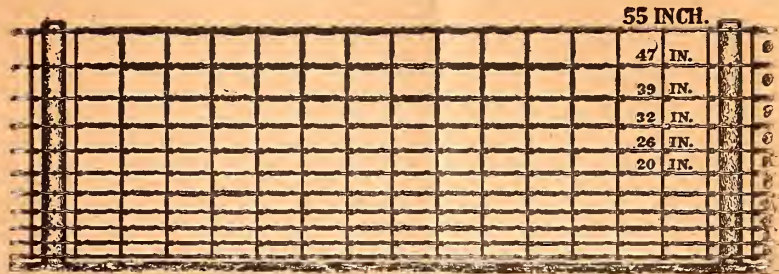


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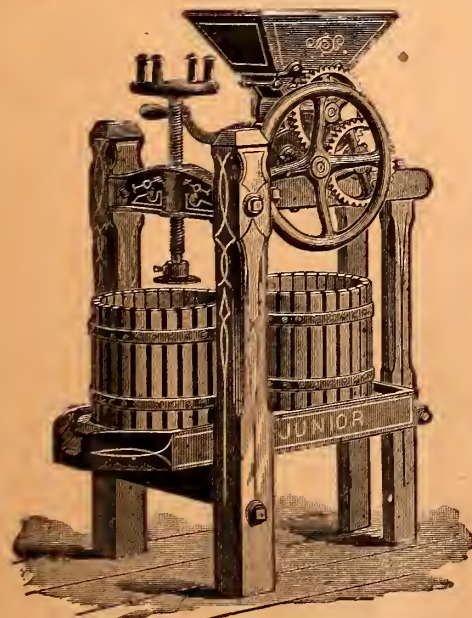
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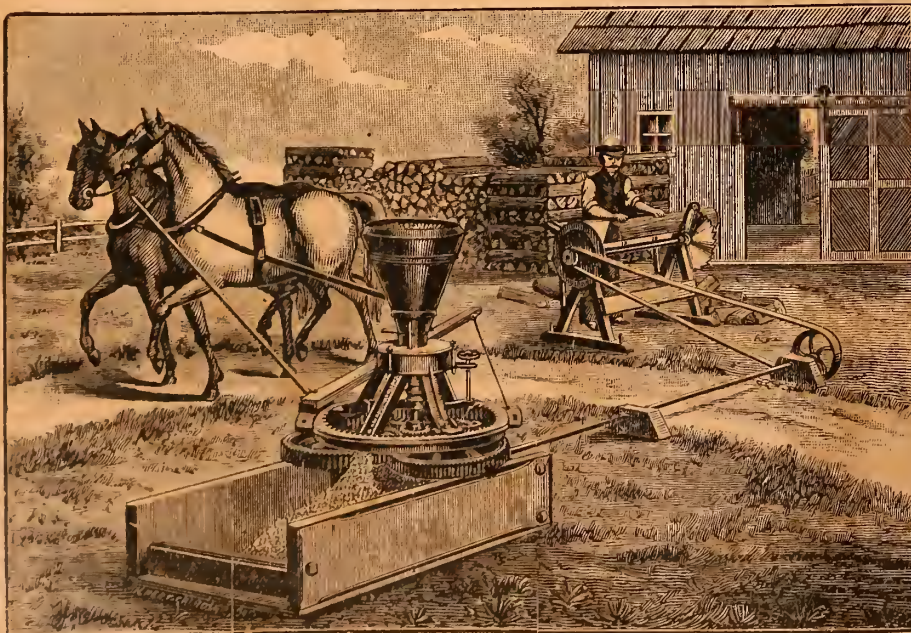
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