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Southern Planter

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DEVOTED TO

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

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

64th Year.

Richmond, August, 1903.

No. 8.

Farm Management.

WORK FOR THE MONTH.

With the first days of July we had the first touch of real summer weather, and the temperature became more nearly that which we are accustomed to have in May and June. Since that time, up to the date of this writing the temperature, though below normal for July, has yet been seasonable and has been accompanied by warm rains at intervals close enough to prevent any approach to drought. This most desirable change has had a great and beneficial influence on the growing crops and they are now making good progress, but are yet much behind their normal condition at this time of the year, and we shall need a continuance of this genial weather for some time to bring them so forward as that early frosts may not catch them before maturity.

The wheat crop of the country has now been all harvested, except in the North and Northwest, and the latest reports place its average condition as below that of last year. All through the sections where threshing has been done the yields are disappointing, and especially is this so in the South and East. The indications are that the crop will fall very much short of what has been predicted.

The very cold, wet and unfavorable spring has had a disastrous effect on the corn crop prospect. Owing to the impossibility of preparing the land and planting the crop the acreage in corn is greatly reduced. The government report makes the reduction in area over 4,000,000 acres, whilst other more sanguine

estimates place it at something over 3,000,000 acres. But this alone does not tell all the tale. That planted was so backward in growth on the 1st of July that much of it, unless the weather is most propitious and the frosts late, will have great difficulty in reaching maturity. In the great corn belt the condition is from 15 to 20 points below that of last year at the same time. In the South, whilst the average condition is higher than in other parts, it is yet below that of the ten-year average. The indications, therefore, are for a considerably less crop than that of last year and below the average of a normal year.

The cotton crop is still reported as very late and small in growth, with considerable injury from boll weevil in the extreme Southwest and a very irregular growth in other States.

The tobacco crop is planted on a larger area than that of last year and is making good progress, though somewhat late. The outlook in the bright sections is not so promising as in the sections where darker types and shipping are grown. Some of the reports from the Carolinas are very disappointing as to the quantity and quality of the leaf.

The apple crop throughout the South is still promising, a smaller proportion of the fruit having dropped than the average. From the Piedmont section of this State we hear some excellent reports.

Live stock is doing well generally, as pastures have

kept full of feed owing to the rains. The demand on the market keeps good and prices are firm. The man who has plenty of stock is not likely to regret it.

Forage crops are making good growth and a large acreage of these, especially peas, has been planted within the past month. It is not yet too late to plant peas or peas and sorghum to make a hay crop, but no time should be lost in getting them in.

The harvesting of these crops will require attention as they become ready. Do not wait until the leaves and stalks are being dried up before cutting. Where the object in growing these crops is forage, and not seed, they are in the best condition when just forming the seed. Peas should be cut when the first pods are turning yellow. The pea crop is best cut with a grain reaper which throws the crop out of the way of the horses when coming round again. If cut with a mower hands should be employed to follow the mower and throw back the cut crop, or much of it will be injured by the tramping of the team. Leave broadcast until thoroughly wilted and partially cured, then rake into windrow and leave for a day or two, then put up into cock and leave to cure out, but do not leave the cocks standing in the field until they are wasted and weather-beaten. If the weather be fine and dry twenty-four hours in the cock will make the hay fit to store in the barn. Before hauling open the cocks to the sun to dry off any excess of moisture caused by heating or dew, or both, and the hay may then be safely packed away closely in the barn where it will heat and cure out finely. Be particularly careful not to haul the peas when at all damp with rain or dew or they mould and spoil. Soy bean hay should be cured in the same way, but it is less susceptible to injury from rain than peas and may be left in the cock longer without loss. Where peas are grown for the seed the crop should be allowed to stand until the most of the pods are turning ripe and then be cut with the mower, reaper or scythe and be handled as carefully and little as possible to avoid shelling the peas. Put into cocks as soon as fairly dry and leave there to cure out.

Soy beans, when grown for seed, are best cut with a reaper and tied and set up in shocks like grain.

Sorghum should be cut like corn, but be allowed to remain laid on the ground for several days to wilt and largely cure before being shocked up. It is a crop which does not spoil easily with the weather

and may remain in the field without loss for several weeks if need be.

Millet should be cut before the seed forms. It is at its best for hay when in bloom and should be cured like a grass crop. By the end of the month the corn crop intended for silage will be sufficiently matured to cut and store. See that you have the silo ready and the cutter and elevator, or better, the blower, in place. Do not hurry the work of filling the silo. Better silage is made and much more can be put into the silo by filling slowly. Cut half a day and fill half a day, thus giving opportunity for the mass to settle and get up a good heat to expel the air. There is no necessity for treading the silage or weighting the top of the filled silo, as was formerly thought necessary. All that is needed is to keep a man or two in the silo when filling to see that the corners and round the sides are kept well filled and the cut ears distributed equally over the silo. When full or the whole crop put in, cover with a foot of freshly-cut marsh grass or chaff or cotton-seed hulls or cut straw. Water this covering well and in a few days it will be all matted together with mould, which will effectually seal the silage and keep it good.

The seeding of forage crops to provide winter and spring grazing and for cutting for green feed in the spring and for an early hay crop and to conserve the fertility of the soil and improve the land for next year's crops, should now be attended to. Crimson clover is one of the best of these crops. The only drawback attending it is its liability to be killed after germinating by the sun and drouth. As, however, it may be sowed from this time to the end of September, or even the middle of October, there is ample time within which to secure a stand. The best way to proceed is to sow an acre or two and then wait a week and sow another acre or two and so on until all the land available has been seeded. In this way some part, if not all, will make a stand and a crop, larger or smaller, will be secured. It is too valuable a crop as feed and for an improver of the soil not to be worth some special effort to secure a stand. We have known a crop of it to so improve a piece of land as to make it produce from ten to twenty bushels more of corn to the acre, and this, after having served as pasturage for a large number of animals during the winter and spring. Prepare the land well and if poor give a dressing of 300 pounds of acid phosphate to the acre and sow twelve to fifteen pounds of seed per acre. When seeding this crop always sow with it about three-fourths of a bushel of wheat and oats mixed and one pounds of

Dwarf Essex rape per acre may also be sowed along with the seed if the crop is only intended for pasture and as an improver. Where it is intended to be cut for hay the rape should be omitted. A pound or two of turnip seed per acre may also be sowed if desired and will provide a nice crop of roots for winter pulling and feeding. The advantage of sowing this mixed seeding is that if the clover should be killed there will be sure to be something left to cover the land during the winter and thus conserve the fertility of the soil and provide some humus making matter to be turned down for the benefit of the following crop.

Another crop which should not be overlooked is hairy vetch. This should be seeded in August and September and will make spring pasturage and a fine hay crop, which can be cut in May and be followed by corn or peas. This is one of the leguminous crops which add fertility to the soil and conserve the land. Sow twenty pounds of seed to the acre on well-prepared land and sow with it three-fourths of a bushel of wheat and oats mixed. Harrow in and if the land is dry roll. If the land is not in good fertility apply 300 pounds of acid phosphate. It makes an excellent pasture for hogs and cattle in the early spring and will make a hay crop of from two to three tons to the acre.

The work of preparing the land for the wheat and winter oat crops should be commenced at once. Experiments have fully demonstrated that the success of these crops depends much more on the physical and mechanical condition of the soil than upon the fertilizer applied. In a series of rotation experiments conducted recently in South Dakota, where wheat has been grown after a great variety of different crops and also after a summer fallow, during which the land was continuously worked and brought into a fine mechanical condition, the yield of the wheat was greater after the fallow than after any crop. Where wheat succeeded wheat the yield was only a little over three bushels to the acre, whilst after a summer fallow it was eighteen bushels to the acre. Wheat grown after corn always made a better yield than after a crop that was not cultivated, thus showing that what is needed to secure a profitable growth of wheat is perfect preparation of the land so as to make available the plant food in the soil. The yield of wheat after corn was only about a third of a bushel less per acre than after a summer fallow. Get the plows into the fields intended to be sown with wheat and oats as soon as possible and plough the land

deeply. Follow the plows with the cultivator, harrow and roller and keep these going over the land every week or ten days until time to seed the crops. The better and more frequently the land is worked the better will be the yield. Let the land to be seeded to winter oats receive first attention, as these to be grown profitably—and they are, on an average of years, the only oats which can be grown profitably in the South—ought to be sown in September, whilst wheat should not be sown until after we have had a frost or two, say, in October or November. The essential for success in wheat growing is a fine, deeply-broken seed bed, yet with a compact subsurface and land free from weeds. By breaking at once and frequent harrowing and cultivating these essentials can be secured.

Turnips should be sown this month. To make the heaviest yield they should be planted in drills 2 feet 6 inches apart and be thinned out after they have made two or three leaves, so as to stand about nine inches apart in the drill. The land should be finely broken and the seed be drilled in—about two pounds to the acre—and be rolled with a light roller. If sown broadcast it will take three or four pounds of seed per acre. Turnips, to make a heavy crop—we have made thirty tons to the acre—require heavy fertilization. From ten to twenty tons of farm-yard manure to the acre may be applied with advantage, and in its absence, or even as a supplement to it, 400 or 500 pounds to the acre of acid phosphate should be used. A crop of turnips makes such a valuable addition to the winter rations of cattle, sheep and hogs that an effort should be made to secure them. With turnips, straw or corn fodder and a pound of cotton-seed meal per head per day young cattle can be carried through the winter in a constantly improving condition.

Dwarf Essex rape should now be seeded for a fall, winter and spring pasture for sheep and hogs. This crop is one of the most valuable for these animals and will make meat and growth very cheaply. Sow two to four pounds to the acre broadcast on well-prepared land and harrow lightly and roll. Let the plants make a fair growth before turning stock on to them, and do not graze too closely and they will then continue to make growth all through the winter and spring and provide constant pasturage.

Do not pull fodder, but wait until the corn is glazed and dented and then cut up at the root and

shock to cure and thus save all the crop, which has cost labor and money to produce it. Pulling fodder means wasting a large part of the crop and injuring the yield of corn.

ALFALFA.

In recent issues we have strongly urged the growth of this crop in the Southern States, and have most satisfactory reports as to the success made in experiments with it in various sections. The only discouraging report is that recorded in this issue from South Carolina, where, in one case, a fungoid disease has attacked the crop. Notwithstanding this we still urge that efforts should be made to establish the growth of alfalfa as one of the regular crops of the southern farm. Its value as a feed and sale crop and the great yields which it makes for a series of years on suitable land when once established, warrants some risk being taken of its being now and then and here and there attacked by this fungoid disease. Even if it should only stand one year it will in its several cuttings, make a yield of hay three or four times heavier than clover or any grass crop. An average yield per year may be taken, on suitable land, at 8,000 pounds of dried hay per acre. Ten thousand pounds, and even more than this, has been frequently cut. It should be cut when one-third of the blooms have appeared. It is then richest in feeding value. We are asked frequently as to growing it on poor land. In reply, we would say that it is not a poor land crop. No plant producing such yields as it does can be expected to flourish on poor land. Experiments made at the Minnesota Experiment Station show that an average crop of 8,000 pounds to the acre will remove from the soil 200 pounds of potash, 98 pounds of phosphoric acid, 80 pounds of lime and 22 pounds of magnesia. It, therefore, calls for a soil rich in the mineral fertilizers, potash and phosphoric acid. The nitrogen it requires it obtains from the atmosphere when once it is established and the soil fully inoculated with the specific alfalfa bacteria. A suitable fertilizer to apply as indicated by this analysis of the plant food removed, would be 300 pounds of muriate of potash and 500 pounds of acid phosphate (14 per cent.) per acre. This should be applied broadcast some weeks before seeding and be well worked into the land and an application of lime—twenty-five bushels to the acre—should be also made broadcast and well mixed with the soil. When the crop is once well established it should be top

dressed each year with farm-yard manure, supplemented with 150 pounds of muriate of potash and 300 pounds of acid phosphate per acre to maintain the fertility of the soil and sustain the draft upon the land of the heavy crops which will be produced. We refer our readers for further information as to the crop to our articles in the June and July issues.

Since we wrote the foregoing we have had the pleasure of a call from Dr. Stubbs, the director of the Louisiana Experiment Station, who was on his way to spend his vacation on the old family plantation in Gloucester county, Va. This plantation the Doctor is bringing into a highly fertile and profitable condition under the management of his nephew. He has already a considerable acreage in alfalfa, some of which has already stood for five years, and off which he has this year cut already two heavy crops with a third now ready for cutting. He finds that he can cut on the average four crops per year, each averaging from one and a half to two tons to the acre. For this hay he has a demand for all that he can spare and finds it a most valuable sale crop, as well as a feed crop for his stock. He intends to put at least one third of the plantation into alfalfa as fast as he can get the land into good enough order and rich enough to grow it, and he will then be able to carry a heavy head of live stock all the year round. In summer he will cut the alfalfa and feed it to the stock and in winter will feed the hay along with his other roughage. We asked him about the fungoid disease above referred to. He said that he had had experience with it. It attacked one of his fields one year, being brought, he believed, with the seed. As soon as it was seen to be spreading he had the crop cut down with the mower as close to the ground as possible. The alfalfa was at once put up into lumps and allowed to heat. This heating destroyed many of the fungoid spores. The crop was then dried out and then set on fire and burned up completely, and he had no further trouble with the disease. He has also had "dodder" to attack the crop. This is a parasite like the "dodder" which attacks clover, and is brought into the field with the seed. The only remedy is to cut the crop and burn it up as soon as it is attacked and before seed is formed. The Doctor is emphatic in his opinion that neither the fungoid disease nor any other hindrance should be allowed to stand in the way of growing alfalfa. His experience with the crop, both in Louisiana and in Virginia, is large, and he is satisfied that it has in it elements of more permanent value for the farm and the farmer than any other crop which can be produced.

GRASS SEEDING.

For many years past, indeed ever since we have edited this journal, we have been urging, in season and out of season, that Southern farmers should grow grass and forage crops for hay and pasture and for the permanent improvement of their farms. Experience the world over has shown that only those countries which have made these crops a leading factor in their systems of agriculture have become permanently agriculturally prosperous. Without these crops it is absolutely impossible to carry live stock on the farm with profit, and without live stock no system of farming can, in the long run, result in anything but the ruin of the land and of those owning and farming it. The months of August and September being the time of the year when grasses can be sown in the South with the greatest probability of success, we propose to say something on the proper method of proceeding in order to secure a good stand. At the outset let us say that statistics go to show that the South is making progress in grass growing. The value of the hay crop on the farm in Maryland, Virginia, North and South Carolina was, in 1902, \$14,280,220. This nearly equalled the value of the wheat crop in those States in the same year, which was \$15,285,225. It was nearly three times the value of the oat crop in those States. The average value of the hay crop per acre in those States in 1902 was \$14.98; that of wheat was \$6.41; corn, \$10.87; oats, \$7.94. When the cost of producing the crop of hay is compared with the cost of producing any of these cereals, it will be seen how much more profitable it is to grow hay. But this does not exhaust the advantages. In producing grass and hay not only is there a large saving in labor, but there is at the same time a large conservation of the fertility of the land and permanent improvement of the farm. Another great factor is that the hay crop can practically be made to a very great extent a sale crop, for which there is an unlimited demand in the large cities of the South, a demand which the South does not begin to satisfy, as hundreds of car loads of Western and Northern hay are shipped into the South every year. Growing forage crops at the same time as the hay crop sets the hay free to be sold, and yet permits of the keeping of a heavy head of live stock, which can be profitably carried on the forage crops alone or supplemented with a little cotton-seed meal. The average yield per acre of hay in the South is nearly as large as that of the Northern and Western States, whilst the average value per ton is greater than in most of those States. We know farmers who

have been selling hay nearly all last winter and during the spring at from \$18 to \$20 per ton on the farm. With such an opening and prospect before him it is time for the southern farmer to cease killing grass and go to producing hay and permanent pasture. The essentials for success in growing grass are rich, finely-prepared land, the seeding at the best time with proper varieties of grass, the seeding of grass alone without a grain crop and the keeping of stock off the newly-seeded land until a dense sod has been secured. One of the great causes of failure to secure a stand of grass is land inadequately prepared for the crop and not made rich enough. Whilst grasses are shallow-rooted plants it is essential to their success that land shall be deeply broken in order that the soil may be capable of holding a reserve of moisture to meet the needs of the crop during a dry time and over a series of years. It is also essential that there should be an abundance of available plant food in the soil, and nothing so much conduces to the availability of this food as repeated cultivation of the land so as to secure that to the depth broken the soil should be in as finely a broken condition as possible. Grasses will not germinate and grow well unless the soil is so finely broken as that the seeds are closely surrounded with fine soil into which the tiny rootlets can make their way and absorb the plant food. This deep breaking should be followed by the cultivator and roller until the seed bed can be made no finer. Grasses call for all the elements of plant food, therefore a complete fertilizer should be applied. Where barn-yard manure can be had no better fertilizer can be used as the basis for the fertilization. This, however, can be usefully and profitably supplemented with acid phosphate or bone meal and possibly with some potash, though if lime has been, or is, applied to the land this may, in most sections of this State, be omitted, as there is a reserve of potash in most of our soils which only requires to be made available by the use of lime. Our own experience is strongly in favor of the use of bone meal as a permanent fertilizer for grass. It is slower in its action than acid phosphate, but more lasting. Where acid phosphate is used it should be supplemented with some nitrate of soda, though we would not apply more than 50 or 75 pounds to the acre at seeding, and would top dress the stand in the spring with another 75 pounds after the grass has commenced to grow. Apply 500 pounds to the acre of acid phosphate or bone meal before seeding and work this well into the soil. The variety and quantity of seed to be sown is an important point. If the field is intended for a meadow then only those

varieties should be seeded which mature at the same time. If intended for a pasture the greater the variety seeded within reasonable limits the better, as this will prolong the grazing period from spring to fall. The grasses in a pasture should keep succeeding each other all through the grazing season, and in the South this practically means all through the year. At the foot of this article we give particulars of varieties of grasses to be sown on different soils for these different purposes. We are strongly in favor of heavy seeding. We would never sow less than two bushels of seed to the acre, and prefer two and a half, except in the case of timothy, when seeded alone, when a peck is sufficient. The majority of the grass seeds are so small and so liable to be of uncertain germinating power, owing to climatic conditions at blooming time, that it is never safe to rely upon light seeding. To be valuable a meadow or a pasture should as quickly as possible be covered with a dense sod. This can only certainly be secured by the use of plenty of seed. Sow the seed broadcast—half one way of the field and half across the first seeding. Harrow in with a light harrow and then roll. Do not sow any grain crop with the grass. The practice of seeding grain with grass is one not adapted to the South. It succeeds in the North and in England, from which country it was introduced here, but the climate there is very different from here. Here, instead of being a "nurse crop," it is a robber crop, depriving the grass seeds of the moisture and plant food which they need and causing the growth to be spindling and weak and then just when shade is most essential the grain is cut and the grass perishes in the hot weather. Sown alone the grasses make a strong, vigorous growth and are gradually inured to the heat of the sun and go through the hot weather without injury, if only there be sufficient moisture in the soil. In thus advising seeding grasses alone we speak from experience. We have tried both ways many times, and whilst we have often failed when seeded with grain, we never failed to secure a stand when the grasses were sown alone or only with clover. We are in favor of seeding some clover with all grass seeds, except timothy, which always sells best when clear timothy alone. The clover helps to make a heavier crop the first year before the grasses are thoroughly established and in the decay of its roots in subsequent years makes food for the grass. Sow the clover at the same time as the grass and not in the spring. If the fall seeding is killed out it may be resown in the spring. When grass is sown alone a crop may usually be cut the first year in the early

fall. No stock, except it may be sheep or calves, should be pastured on the grass the first year, and these should not be allowed to be on the land when it is wet. Pasturing with heavy cattle or horses before the grasses have made a good root-hold and the sod is thickening, is certain to result in permanent injury.

Grass seed mixture for a meadow on good loam soil.—Orchard grass, tall meadow oat grass, meadow fescue, perennial rye, red top.

Grass seed mixture for permanent pasture on good loam soil.—Tall meadow oat grass, Virginia blue-grass, orchard grass, perennial rye, red top, Kentucky blue, meadow fescue.

Sow with the meadow mixture six pounds of red clover per acre, or alsike clover.

Sow with the pasture mixture five pounds of red clover and five pounds of white clover.

ALFALFA.

Editor Southern Planter:

If it is not asking too much will you please give me some information about a piece of "alfalfa clover" that I prize very highly. It was seeded the first of last September on a piece of rich, loamy soil that had been freed of weeds. It was twenty-seven inches high the 15th of last December, and I cut it at that time, as you advised me to do. I have cut two crops of hay off it this spring and it is now about twenty-six inches high and beginning to bloom. After cutting it the last time I top dressed it with fertilizer (2-8-2 goods) at the rate of about 600 pounds to the acre. I find now that here and there the leaves and stalks are turning yellow and dying. I have examined it carefully, but cannot find any insect or parasite preying upon it. Any information or advice you may give me will be very much appreciated.

The rapidity of its growth in dry weather was simply wonderful. It grew, by *actual measurement*, sixteen inches in eleven days during the dry spell we had in May.

DR. G. H. FINCH.

Mecklenburg county, Va.

When we received the foregoing communication we wrote Dr. Finch that we thought it probable that the trouble he complained of was caused by the wet weather of June. The alfalfa plant is easily injured by water standing or wet vegetable matter lying upon the plants. These cause the crowns of the roots to decay and the plant then soon dies. We have known one or two good stands to be lost from these causes, hence the importance of seeing that land seeded to alfalfa has good drainage, and that after the crop is cut it is quickly made into hay and got off the field.

If the hay is caught in a wet season and cannot be quickly dried, it should be hauled off the field to the barn yard and be made into manure and thus save the plants, which will give another crop to take the place of the lost one in a month or five weeks. Since we wrote Dr. Finch we have received the following communications from another subscriber, Mr. Roddey, of Rock Hill, S. C., which may explain the trouble. We trust, however, that this is not so, as we should regret to know that the disease mentioned is prevalent in these South Atlantic States. We have known several good stands of alfalfa in this section which have stood for a number of years, and heard of no indications of the disease. Mr. Roddey says:

I have read with a great deal of interest your article in the SOUTHERN PLANTER of July, 1903, and as I am interested in alfalfa, it occurs to me to give you the benefit of my recent experience. I have about an acre of alfalfa, from which two good cuttings have been secured this year. Quite recently it appears to have been attacked by a fungus disease, and I sent some specimens of the diseased alfalfa to the Department of Agriculture at Washington, and enclosed you will find a copy of the letter which I received in reply to my communication relative to the subject. Quite a number of our farmers proposed planting alfalfa this fall, and quite a local enthusiasm has been manifested in its growth. The department's letter, however, is a knockout blow and we are somewhat at a loss to know how to proceed further. My present idea is to discontinue its cultivation and to advise my friends who intended growing it that in view of the fungus disease which has appeared, it would probably be best to go slow in any further experiments in its growth.

Copy of letter referred to:

WASHINGTON, D. C., July 6, 1903.

Mr. W. L. Roddey, Rock Hill, S. C.:

DEAR SIR.—Your letter of the 1st instant with the accompanying specimens of diseased alfalfa has been referred to this office. An examination of the specimens shows that they are badly attacked by a fungus disease generally called leaf-spot, known to botanists as *pseudopeziza medicaginis* (Lib.) Saec. This disease has been reported from several States, especially in the East, and has proved particularly troublesome in some parts of Delaware, where some experiments have been carried on in treating it. Thus far, however, no satisfactory remedy has been found. It is possible that some benefit may be derived from a thorough treatment with Bordeaux mixture if commenced early in the spring before the plants are attacked. Where the plants have become so badly diseased that there is no hope of curing them,

it would probably be best to burn the field and plant it to some other crop. Very truly yours,
(Signed) C. L. SHEAR, *Pathologist*.

HESSIAN FLY.

As is the case in almost every year, we have this year had complaints of "fly" in the wheat from various sections of this and the adjoining States. Now is the time of the year when effective steps can be taken for lessening the risk of damage from this pest. If every farmer would act now the damage could be reduced to the very smallest proportions, but if only an isolated farmer here and there takes the proper steps, whilst some good may be done, nothing like extermination can result. Each farmer should at once plough a bed of land across a field and sow it with wheat; very soon after it becomes green with the young plants if any Hessian flies are about they will settle upon it and lay their eggs. When the strip is thoroughly infested with the flies plough the crop down deep and roll the land. This will bury and destroy the flies and their eggs, and then if the seeding of the wheat crop be deferred until after we have had a sharp frost very little fear of damage need be apprehended from this source. Where only one or two farmers in a section adopt this course only partial relief can be secured, as the flies will be bred on one farm and make their way to others. Urge your neighbors to join you in this campaign.

OATS TURNING TO CHEAT.

Editor Southern Planter:

In the last issue of the PLANTER a subscriber asks, "Will gray winter oats turn to cheat?" You reply that neither oats nor wheat nor any other kind of grain will turn to cheat or chess.

Now, Mr. Editor, I am aware that your answer is in conformity with the prevailing opinion of botanists and scientists. However, in the light of recent experiments by horticulturists and others upon various shrubs and plants in the way of hybridizing, the theoretical deductions of past scientists have frequently come to grief.

I will say for the benefit of your subscribers that cheat, or chess (*Bromus secalinus*), is a hybrid (or like a hybrid) of the order Gramineæ, originating from the changed condition of the organization of either wheat or oats, and perhaps other grains, and thereafter, like many other hybrids, retaining the power of propagation.

All this may be demonstrated by seeding to either fall wheat or oats a plot where excessive water and frost in the latter part of winter shall so nearly exhaust the vitality as to change the organism of the plant, yet not quite destroy it. Many of the plants will show up ches when headed.

I can call to mind several instances in my memory where I have seen this, and also several examples of wheat and ches grown on the same root and very carefully examined to see that no mistake was made.

York county, Va.

B. F. WRIGHT.

We would like to have the opinion of some of our specialists on plant breeding on this question. The best authorities we know are entirely opposed to the idea that one plant can change into another. They stand by the doctrine that "like produces like." We grant the possibility of such a combination of unfavorable circumstances as may cause a plant or an animal to degenerate into a wretched specimen of the original and true type of the species or breed, but that such degeneracy should cause a change so great as to make the species or breed a perfect plant or animal of another kind is beyond our conception. *Bromus secalinis* (cheat or ches) is a distinct botanical species of grass reproducing itself truly generation after generation and showing little or no variation in type. So also are wheat and oats. They all belong to one great botanical family, and it is beyond our comprehension that any one of them should, under any circumstances, change so as to become a perfect plant of another member of the same family. If wheat and oats can change to cheat, why not cheat change to wheat or oats. Such a change has never yet been recorded so far as we know. Hybridization has, no doubt, produced some strange freaks, but it is, we believe, an essential in all cases of hybridization of plants that there should be a cross fertilization of the pollen of the flowers. Contrary to this principle the claimed change or hybridization of wheat or oats to cheat occurs in winter when there is no pollen or flowers on either plant.—ED.

VETCH, COW PEA, AND SOY BEAN HAY AS SUBSTITUTES FOR WHEAT BRAN.

The object of the feeding experiments herein described was to ascertain whether hay made from hairy vetch, cow peas and soy beans could be advantageously substituted for most of the wheat bran in the ration of dairy cows.

The following values per ton were used in calculating the cost of food:

Wheat bran, \$20.00; vetch hay, \$10.00; cow pea hay, \$10.00; cotton seed, \$12.00; cotton seed meal, \$20.00; cotton seed hulls, \$5.00.

Vetch hay proved fully equal in feeding value to a similar weight of wheat bran. By this substitution the cost of the food required to make a pound of butter was reduced 25 per cent., which is equivalent to a monthly saving of \$22.20 in a herd of twenty cows.

With the vetch ration the cost of food for one pound of butter averaged 10 cents in contrast with 13.4 cents when wheat bran was fed.

The waste in feeding vetch hay was, with most cows, about 6 per cent. of the amount offered and with cow pea hay about 16 per cent.; the latter residue being useless, is charged as a part of the ration.

That portion of the cow pea hay actually eaten proved fully equal in feeding value to a similar weight of wheat bran. Charging the cows with all the cow pea hay offered them, we find that cow pea hay had 86 per cent. of the feeding value of wheat bran, one ton of this hay being equal to 1,720 pounds of wheat bran.

When wheat bran was worth \$20 per ton cow pea hay was worth \$17.20, and vetch hay \$20.00.

The monthly profits per cow were \$4.65 on the vetch ration and \$4.35 on the cow pea ration.

One of the Jersey cows used in this test produced butter at a cost for food of only 8 1-3 cents per pound, when fed on the vetch ration.

Running cow pea hay through a feed cutter did not decrease the waste in feeding this food.

Four and a half per cent. more butter was produced with soy bean hay than with cow pea hay, if we take account of the portion of each actually eaten; however, a larger proportion of the coarse stems of the soy bean hay was left uneaten.

When corn hearts was substituted for wheat bran the yield of butter was increased by 8 per cent.

J. F. DUGGAR,

Agriculturist Alabama Experiment Station.

BORERS.

One pint of carbolic acid, five gallons of whitewash, one pound of sulphur, half pound of salt, one quart of soap—used in Georgia largely for peach trees, and prevents borers. Use just before the trees bloom. Dig around the tree close to the body, exposing the roots slightly, and apply the wash from roots to crotch of tree. The scent of the acid remains three months. When this wash is used, one never has any trouble with wormy preaches, the scent probably keeping curculios away.



CLOVER IN EASTERN VIRGINIA.

Editor Southern Planter:

It is generally agreed and understood by tillers of the soil that clover is the best friend the farmer has in the line of grasses. The general idea and verdict is, that if clover will grow, and there be a substantial subsoil, such land can be easily brought up to a high state of cultivation, and to a great degree of productiveness. In short, nearly everybody has a good word and kindly feeling for clover on the farm.

In my correspondence and conference with people from the East, West and North, I find the idea generally prevailing that clover will not do well in the South. This seems to be the general opinion.

How this idea gets its hold upon so many people I cannot say; but presume it may be from the fact that clover is not more generally grown in the South.

Then, too, in some portions of the South the soil may be too poor, and the subsoil too light, or the dry spells in summer too long, or the winter frosts too severe.

But none of these causes or drawbacks can be urged against the growing of clover down here in Eastern Virginia. The soil is of alluvial character, very friable, easy to cultivate and the subsoil is a good, substantial clay.

The coldest drop of the thermometer very seldom

gets below 20 degrees above zero, and the summer months are liberally supplied with rains. The monthly average rainfall for July and August during the past thirty-three years being almost six inches per month, and, as a result our pastures and meadows are about as green in July and August as in April, May and June.

The one lone Jersey cow, shown in the accompanying cut, seems to have a government contract under her feet to keep down the volunteer growth of white and red clover on a ten acre patch of land, which, only a year ago, was in potatoes.

In March, 1902, potatoes were planted where the cow now stands. In June and early July, 1902, the potatoes were dug and the surface smoothed down a little with the harrow. At once the crabgrass took full possession of the potato patch, and in October, 1902, one and one-half tons of crabgrass to the acre was cut and stacked for consumption on the farm.

In the mean time the owner having sold his farm to a syndicate to be cut up into little five acre garden farms, did not touch this plat, and when we took our photograph, about the middle of May, 1903, the clover covered the ground almost completely—a volunteer crop. This shows how rapidly the clover comes in and occupies the land where it is given a chance and where the soil is in fair condition.

This old Jersey, up to her eyes in clover, is the

only cloven-hoofed animal on a 500-acre farm, excepting, perhaps, a venerable old "Billy goat."

All a man has to do here is to keep some stock on the farm and let the clover seed get into the manure heap and get scattered over the farm, and it will come up here, there and everywhere, often getting where it is not wanted, as our truckers class clover as a "weed." So it is often a weed, as the definition of a weed is a "plant out of place."

Our people do not like clover in the potatoes or corn or in the berry fields. They root it up and dig it up when it gets in the way, and do not seem to understand that, properly cared for, and encouraged, and permitted to grow it would soon lift the mortgage off every farm in Eastern Virginia.

I long to see the day when we shall see clover fields and herds of Jersey cows on every farm in Virginia. It was a beautiful view, this May morning, to see this fine Jersey cow in the clover field. The sun shining warm and genial, the bees industriously at work at the clover blossoms, a light haze between us and the distant woodland, the song of birds, the shouts and laughing of the berry pickers in the adjoining fields, making a combination of sights and sounds very pleasant to the senses.

When Virginia is once properly settled and farmed it will lead the entire country. We should grow clover—plenty of it—red, white, mammoth and crimson.

There should be a herd of cows and clover fields on every farm. Why not? Nature encourages and permits, and the markets demand.

Why not raise the clover and the cows?

Norfolk, Va.

A. JEFFERS.

CHEAT OR CHESS.

Editor Southern Planter:

I noticed in the July PLANTER the question asked if oats will turn to cheat. This question was discussed for years by my father and myself, my father contending that cheat was a grain of itself and was not a degenerated grain, whilst I maintained a contrary opinion. I thought I brought ample proof to sustain my views, but could not convince him. After his death I saw a case that I think would have compelled him to give up his view. The case was this:

Mr. William Brackman, a neighbor of mine in Louisa county, had been sowing winter oats for a number of years. They became so filthy with cheat and cockle he concluded he would sow them in the

spring so as to cleanse them. He sowed in the spring two years and got them perfectly clean of all cheat and cockle. He then sowed them in the fall. (I saw them every few days from the time they were seeded until cut.) They stood the winter well. When they began to head I noticed that the first heads were all cheat. I thought that it was owing to some cheat that was in the land and being a volunteer crop was earlier than the oats and that later the oats would head, but to my surprise the whole crop was cheat. I do not think I would put it too strong to say there was not a head of oats to a thousand of cheat. Mr. Brockman cut the crop for hay, and it was as fine a crop as you generally see. The crop that came up after the cheat was cut was oats.

These facts can be proven by as good and honest farmers as you will find in this section. This has proven to me what I have always known, that cheat is a degenerated grain, not only of oats, but of wheat as well.

Now, Mr. Editor, I do not write this to try and change your views in the matter, but if there is any one who doubts this let him sow winter oats twice in the spring then sow them in the fall and he will see, to his sorrow, the truthfulness of my statement.

Orange county, Va.

J. H. ELLIS.

In this issue will be found some further remarks by us on this subject in reply to a communication.—
ED.

THE INADEQUACY OF THE PREVAILING METHOD OF APPLYING FERTILIZERS THROUGHOUT THE COTTON STATES.

Editor Southern Planter:

Over and over again I have been confronted with the question, Do fertilizers impoverish land? and just as often as I am asked the question, just that often I answer it both in the affirmative and in the negative.

Fertilizers applied in an improper manner are liable to impoverish even the very richest of soils.

I have repeatedly stated the fact heretofore that the chemical fertilizers—nitrogen, phosphoric acid and potash—put in the very best work of which they are capable in correcting known deficiencies in the soil.

2. In bringing about an increased yield of a cash or sale crop, let the crop be what it may.

3. To fertilize the crop that is to be used strictly for recuperative fertilizing purposes.

I know very well that it is popular just at this

present time to transpose this arrangement of mine and place the last-named use of the chemical fertilizers first, in front and on top all the time.

Now, I have no kick to make about which method of use of these all important agents is of the greatest importance to any individual farmer. The point I wish to make and emphasize is that the prevailing method of using fertilizers, as invariably used throughout the entire South by the average user of fertilizers, is utterly and entirely inadequate to subserve either one of the above named three uses.

I refer to the customary, reprehensible, yet, unfortunately, widespread habit, that has somehow or other gained hold, of applying 200 pounds of a low-grade fertilizer per acre, said low-grade fertilizer analyzing about 8-2-2.

These 8-2-2 goods are not adapted to the needs of a cotton crop on any soil; not adapted to a corn crop on any soil; not adapted to a vegetable crop on any soil; not adapted to even a cow pea or clover crop, nor any other leguminous or renovating crop of any kind. I fancy I hear one say, If this is the case, why is such a fertilizer manufactured? To this I would answer: In order to cater to the popular demand for a "fancier" cheap fertilizer. Even if the fertilizer was the fertilizer par excellence for the crops (cotton or corn) for which it is put up and sold, which it is not, 200 pounds of it applied per acre is utterly and entirely inadequate to either furnish said crops of cotton and corn with a sufficiency of plant food to ensure even good, much less best, results, and also utterly and entirely inadequate to even maintain, much less increase, the fertility of the soil. This brings me again to the question, Do fertilizers impoverish land? To this query I would answer: It is not that which is applied to the soil that impoverishes soil, but that which is withheld from it. The fertility of millions of acres has become exhausted North, East and West, as well as in the South. Was it the application of chemical fertilizers that caused their exhaustion? Not at all, for not an ounce of fertilizer of any kind was ever applied to them at any time. What, then, is the cause of their exhaustion? It was caused by the annual taking off of everything possible from the soil and never putting anything back. Not satisfied with the destruction of fertility brought about by this system of wholesale spoliation, for the accommodation of a Mustang pony, as well as for the ease of the soil tiller, the residue, after both man and animals have gotten off all they possibly could utilize, is set fire to and burned.

Many tons of fertilizer are annually sold of even

a lower grade than the 8-2-2 goods, analyzing 8-1½-1. It is needless to state that either of these are entirely too low a grade to either be sold, bought or used. It is through a very costly ignorance that farmers can be prevailed on to use them at all. This deplorable ignorance annually costs the farmers more than sufficient to obtain a thorough, practical education along this line that would be ample to prevent his being imposed upon by dealers who often are as ignorant as the farmer himself of the general principles that underlie the truly scientific (hence intelligent, judicious, rational and profitable) system of fertilization. The manufacturers make money on them, pandering to the popular demand for something cheap. The dealers are going to so handle them to make money, on them anyhow, while the plants starve on any such an insufficient, innutritious diet; the lands are continually growing poorer under their use, and the poor, deluded farmer has to bear all the losses, while, unfortunately, the blame for this condition of things lies with himself exclusively. Through his own negligence he is forced to furnish the feathers for the other fellows to feather their nests with. A little study on the part of the soil tiller would so change the face of things as to make the fertilization of the various cultivated crops a never ending source of satisfaction, profit and delight.

"A thing of beauty is a joy forever." A judicious system of fertilization would undoubtedly make the "thing of beauty" just as surely as liberal and judicious feed and intelligent care and painstaking will make a beautiful cow, horse, ox or hog. A yield per acre of 5 bales of cotton; 100 or upward bushels of corn; 150 bushels of oats; 60 bushels of wheat; 6 tons of hay; 700 bushels of potatoes, etc., etc., have often been, and could still oftener be, obtained by judicious (which means economical) fertilization. It is false economy to buy low-grade goods at any price. There is no true economy in it. The best of anything and everything is none too good, and the best is always the cheapest in the end, regardless of price.

By applying 200 pounds of low-grade 8-2-2 goods per acre one applies but 16 pounds phosphoric acid, 4 pounds ammonia and 4 pounds of potash per acre. Now, if any of my farming brethren will show a single cultivated crop that will abstract this amount from the soil and no more and still make a profitable crop; or, if any one. let him be whom he may, can show that this compound or combination is adapted to cotton or corn, or any other crop for which it may be recommended and so adapted, that "best," or even "good," results may be reasonably

expected therefrom, I will agree to give that party my head for a foot-ball, or to be branded for an ignominium to the end of my days, or to be dumped off into the nearest creek with a rock around my neck and say "here goes nobody." A fertilizer analyzing 8-3-3 or 10-3-4 and from 500 to 1,200 pounds applied per acre will, when coupled with deep preparation and thorough culture, ensure best—*i. e.*, most profitable—results. This being the case, this latter seemingly very liberal application is, in fact, the most economical application that can be made, for the reason that it gives the greatest profit or largest cash returns.

An application of less than 600 pounds per acre of even as high grade as above, tends to impoverish, instead of enriching, the soil, as in this case the fertilizer acts somewhat as a stimulant and causes the plant to withdraw from the soil more plant food than the applied fertilizer furnishes.

To this extent, and to this extent only, do the chemical or commercial fertilizers actually impoverish soils. Messrs. Lawes and Gilbert, of Rothamstead, England, after upward of a half century's experience in their use, summarize results by stating that: 1. "Complete fertilizers are not exhaustive, and land can be kept permanently fertile by their use. 2. Heavy applications of fertilizers are the most profitable." This is also the experience of all those who have used them extensively in this country.

Burgess, Miss.

G. H. TURNER.

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.

Alfalfa.

Having read a great deal about alfalfa in the *PLANTER*, I have become interested enough to try it, especially for grazing for hogs in spring and early summer. Would like to have answers to the following questions in your next issue:

1. On what kind of soil will it grow, and if it will grow on comparatively poor land well manured and fertilized?

2. What kind of commercial fertilizer should be used in connection with stable manure?

3. Where could the bacteria-infected soil be gotten: how applied and how much per acre?

4. How should the land be ordered and what time should the alfalfa be sown?

5. If it would be advisable to sow land in cow peas before seeding it with alfalfa?

6. What soil is adapted to the growth of Dwarf Essex rape for fall, winter and spring grazing for hogs?

7. How should the land be prepared for same?
Amelia county, Va. G. C. A.

In our articles in June, July and this issue we have, we think, fully covered all the questions asked by our correspondent as to alfalfa. We refer him to these.

In this issue we give advice as to sowing Dwarf Essex rape. A fertile loam soil is the best for this crop, though it will often do well on heavier land if well prepared and in good fertility. Any soil that will grow turnips or cabbages will grow rape.—ED.

Cattle With Sore Eyes.

I have noticed several of my cattle with sore eyes, and a great deal of water runs from the eye, and it looks as though it was blind. The cattle have good pasture and there are some woods they can go to. Is it probable that some poisonous weed has gotten into the eye? Will you kindly let me know what to do and if it is a disease is it a dangerous one?

Warren county, Va.

E. C. GATEWOOD.

This looks very like a case of specific ophthalmia. This generally appears in an enzootic form and affects a number of the cattle at the same time. It is characterized by a muco-purulent discharge of the eyes, an intense degree of inflammation, swelling of the eyelids and opacity of the cornea, making the animals appear blind. There is a constant flow of tears, sometimes streaked with blood. The unaffected animals should be at once removed to another location possessing a different character of soil, feed and water. Those affected should be housed in a cool, dark stable and be supplied with plenty of fresh water to drink and be fed on soft, succulent feed. Give a dose of one pound of Epsom salts to each sick animal in two or three pints of water. Give tincture of veratrum viride every two hours in thirty drop doses and half an ounce of saltpeter three times a day. For an eye wash use boracic acid, one drachm, and pour four ounces of boiling water over it. Use this frequently, applying it directly to the eye.—ED.

Cement for Walls.

In the June issue a reference was made to cement walls for an ice-house. How would same do for a house cellar wall and for well curbing in place of brick? If good, please state what thickness of wall

would be best? What proportion of cement and sand would give best results. Could ordinary field stones be used as a filler?

Please suggest a way of building same.

Spotsylvania county, Va.

CONCRETE.

See reply to Subscriber as to concrete building in this issue. The concrete will make a good wall. Make the wall nine inches thick.—ED.

Concrete Buildings.

Can you oblige me by giving some information through your Inquirer's Column concerning the construction of farm buildings out of a mixture of air-slacked lime, sand, gravel and stones?

I understand that most masons use unslacked lime, but I have heard that air-slacked lime has been used in some cases.

Can you tell me what proportion of lime should be used and just how the mixture should be prepared to put in the wall so that it will not crumble? Can such a wall be built so that it will not be damp on the inside? Will slate stone put into the wall prevent moisture from going through?

Any information on these subjects will be very gratefully received by

SUBSCRIBER.

Spotsylvania county, Va.

Buildings for all farm purposes, and even for dwellings, can be erected with concrete. They are practically indestructible and are damp proof. They are largely built in some parts of the North and in Canada. Neither air-slacked nor water-slacked lime can, however, be used for this purpose. The material used to bind the sand and stone together must be cement. The buildings are erected by mixing the stone, sand and cement into a mortar and pouring this into wooden moulds. These moulds are fixed on the site of the building and when filled are allowed to stand until the concrete has set and are then raised and again filled until the height of the wall has been built. The proportions for good concrete are, for one cubic yard: Crushed rock, 27 cubic feet; gravel, 13 cubic feet; coarse sand, 6 cubic feet; cement, 3 cubic feet.—ED.

Alfalfa.

Would you advise sowing alfalfa clover in the fall, and at what time for this section? Can you inform me where infected soil may be obtained? What fertilizer would you advise for alfalfa on land where red clover sod has been turned under?

Albemarle county, Va.

H. R. BOSWELL.

See our reply to G. C. A. in this issue. In all sections where it is safe to sow red clover in the fall

alfalfa may be there sown at that time and this would cover your section. Sow as soon as you can get the land ready so that good root-hold will be obtained before winter sets in. Use acid phosphate on the clover sod, 300 to 500 pounds to the acre. In the mountain sections of the western part of this State it will be better to sow in the spring, as the winters are often severe enough to kill out any of the clovers.—ED.

Seeding Winter Oats.

Can you advise sowing winter oats on corn land well prepared as for wheat, or would it be too late for oats? We cannot be ready before the last week in September.

C. A. S.

Culpeper county, Va.

If the oats can be gotten in in September they may be sown with a good prospect of success.—ED.

Plant for Name.

I enclose specimen root and flowering branch of a plant which seems to propagate itself freely in this section. It is relished by stock, both in the green and cured states. An identification will be greatly appreciated.

SUBSCRIBER.

Lowdnes county, Miss.

The plant from Columbus, Miss., sent for identification, is Prairie Mimosa—*acuan illinensis*.

This plant is native from South Dakota to Florida and Texas. It is more abundant in the southern part of its range. It belongs to the mimosa family, but is not a true mimosa. So far as I can learn it has not heretofore been regarded as a forage plant of any particular value, but if stock eat it with relish, and without any ill effects, as stated, it is doubtless of some value as a pasture plant.

LYSTER H. DEWEY,

Botanist in Charge of Fiber Plants.

Department of Agriculture, Washington, D. C.

Plant for Name.

The enclosed plant is springing up after wheat in Franklin county thick and flourishing. Can you tell me what it is and if of any value as a fertilizer? Stock will not eat it.

W. H. WORKMAN.

Roanoke county, Va.

The plant sent for identification is Bracted Plantain—*Plantago aristata*.

LYSTER H. DEWEY,

Botanist in Charge of Fiber Plants.

Department of Agriculture, Washington, D. C.

Bracted plantain is a troublesome weed a native

of the Mississippi Valley. It is an annual and propagates from seeds, of which it produces a great number. It has probably been introduced in the East and South largely in clover seed. The only way to get rid of it is to put the land into a hoed crop. If not checked it is likely to become as troublesome as rib grass. It is of no value either as a feed or a fertilizer.—ED.

Grass for Name.

I enclose a head of grass that came up in my oats, Will you please give its name and its value as hay? *Isle of Wight Co., Va.* THOMAS B. WRIGHT.

The grass is chess (*Bromus Secalinus*). It is of small value as a hay grass.—ED.

Improving Land for Corn.

We have about seven acres of land of a light sandy soil with a yellow clay foundation in peanuts this year. This land, when planted in cotton, will produce about 1,000 pounds to the acre. After the peanuts are dug we want to put the land in something that will improve it for corn next spring. Please tell us what to get and how much? What kind of fertilizers and how much? Please give us all the information you can, as we want to try to make a success the first year.

HENRY & MORRIS.

Bertie Co., N. C.

As soon as the Peanuts are dug apply 25 bushels of lime to the acre and harrow in. Then in a week or ten days apply broadcast 500 pounds to the acre of acid phosphate, and 50 pounds of muriate of potash, and sow a mixture of 10 pounds of Crimson clover, 15 pounds of sand vetch and half a bushel of wheat and oats mixed. This should make a good green fallow to plow down for the corn in April.—ED.

Cramp in Horses.

In our last issue, in the reply to the enquiry of Mr. H. Jackson, on page 443, there occurs an unfortunate printer's error, which we desire to correct as early as possible. We wrote that a proper remedy to use was chloral hydrate *one ounce* in a half pint of water. The printer makes us say ten ounces. *One ounce* is the proper dose. This is apparent later in the reply where the remedy is again mentioned for another form of cramp.

Home Made Pickles, Wine, Grape Juice.

We have had several enquiries recently as to making these, and have not been able to give satisfactory

replies from the absence of personal knowledge on the subject. We have now secured a correspondent, who will give information on these and other household questions. The first article will be found in this issue in the Publishers' Department, in column alongside the advertisements. The Department of Agriculture, Washington, has just issued a Farmers' Bulletin, No. 175, giving information as to grape juice, etc. This can be had on application to the Department.—ED.

Fertilizer for Clover.

Five years ago I moved to a wornout farm. Since that time I have improved it very much by sowing cow peas and hauling woods mould, but have never made much success with clover, especially red clover. It starts off nicely, but turns yellow in early spring and does not grow much more. Will you kindly advise me what fertilizer to use to remedy this, for it seem deficient in something? In giving me your opinion of a fertilizer please give me the analysis also. I shall sow clover in August in corn.

Accomac county, Va.

W. S. NELSON.

We are of opinion that if you would give your land an application of lime—say at the rate of 25 to 50 bushels to the acre—that you would secure a good stand of clover. This should be repeated—say, every five years. The lime is best applied in the fall and winter, after the land has been plowed. Spread broadcast and harrow in lightly. As you propose to sow clover in the corn, and it will not be practicable to spread the lime in the corn, we would give the application on the clover in the early spring.—ED.

Rotation of Crops for Hogs.

Your valuable journal has, I think, been worth much to me, and I come for some more information, though you have detailed it time and again, but I haven't time to look the particular Planter up, so a repetition will perhaps help some other poor fellow. It is this. I have a lot of some 15 or 16 acres, at present divided in half, and I wish to divide the two halves, making four lots out of the whole, as suggested by the PLANTER some time ago, and keep this in something for my hogs. Last year I had seven acres of this land, in peas and soy beans, and my hogs got fat eating them. This year I have eleven acres of the same land in peas. I sowed soy beans, but they failed to come up, so I sowed in peas. Now, what I wish to know is this, What crop must I put in each of these lots for first, second, third and fourth, so as to have something for the hogs all the time as near as possible. I know that German clover is an early

crop, but it is said to be uncertain in getting a stand. If you suggest that, could you suggest something to be sown with it, so that in case of failure in clover, I would have the other? Would it pay to put one or two of the lots that are now in peas (after the hogs eat the peas) in oats, and when they begin to turn in June next, turn the hogs in on them, then follow in peas again. Information on this line will be generally helpful no doubt.

N. E. HAYES.

As soon as the peas are off seed one of the lots in crimson clover, wheat, oats, rape and turnips. In this issue in the article, Work for the Month, will be found the proportion of seed to use. Seed another lot a little later with Hairy Vetch, wheat and oats. In December or January seed another lot with Canada peas and oats, two bushels of peas and one bushel of oats to the acre. As these different crops are consumed seed the lots in order in cow peas, sorghum, soy beans and corn, to follow for eating in summer and fall. Plant part of one lot in artichokes in April to make winter feed.—Ed.

Johnson Grass.

Can you tell me in your August number anything about the seeding of Johnson grass? Can it be sown in the fall with a reasonable prospect of getting a stand? If so, about what time and with what kind of preparation?

J. O. BARKSDALE.

Johnson grass may be sown in either fall or spring, but if sown in the fall it must be got in early—enough to get good root hold before severe frost. Prepare the land as for other grass seeding and sow one and one-half bushels of seed per acre, so as to secure a thick stand, and thus a finer growth of stalk.—Ed.

Peach Trees Dying.

You will find a sample of small black beetle which is very abundant upon one of my peach trees. The tree is, and has been, losing a branch here and there for the past three months; the bark looks dry and fly specked. This is the third tree I have had affected in this way in three years. Both the others died after a few months. Can you tell what is the trouble and advise a remedy through the columns of the PLANTER.

PERCIVAL HICKS.

Mathews county, Va.

We referred the foregoing to Professor Galloway. The following is the reply received.—Ed.

Your letter of the 15th instant addressed to Prof. Galloway, of this department, duly received and referred to this office for attention, inasmuch as the samples submitted show insect injury, and therefore do not fall within the province of his bureau.

The insect sent, on examination, proves to be one of the smaller species of lady birds, *Pentilia misella* Lec., which is one of our most efficient natural enemies of the San Jose scale. The fact that your subscriber has collected these specimens on his trees, together with the report of damage to the trees, would seem to indicate the presence of the scale insect mentioned. To confirm this belief, it will only be necessary for you to send to me a few branches of these infested trees showing the injury noted. The remedies for the San Jose scale are detailed in two circulars of this office, copies of which I enclose.

L. O. HOWARD, *Entomologist.*

Department of Agriculture, Washington, D. C.

Alfalfa.

I am very much interested in your articles on alfalfa clover. I have two acres I want to seed this summer or fall. About what time would you advise seeding it? It is in wheat stubble now.

Worcester county, Md.

A. C. HOLLOWAY.

Plow at once and harrow and encourage the weeds to grow. Kill these by reharrowing as fast as they germinate. Then in the first half of September sow the alfalfa. See replies and articles in this issue as to alfalfa.—Ed.

Cross-Breeding Sheep.

May I ask if a cross of a Dorset ram on Shropshire ewes is desirable?

A NEW SUBSCRIBER.

Bedford county, Va.

We do not think the cross would be a desirable one. The Dorset is not as good a mutton and wool sheep as the Shropshire, whilst, as an early lamb producer, it is not much better. The two breeds each fill a distinct place in sheep husbandry, and should be kept pure to fill that place, or, if crossed at all, should be crossed on grade Merinos, whose quality as lamb producers and mutton and wool makers they can and will influence favorably. It is rarely good policy or profitable to cross two pure breeds. They scarcely ever "knick" well, and the result is often a nondescript of no value.—Ed.

Apple Scab—Bitter Rot or Brown Rot.

I wish to trespass upon your space to ask our Blacksburg friends, so well versed in sporeology, if sclerotinia fructigena is the English Latin, whilst deutricium fucicladium is the American Latin for apple scab?

In the *English Field* I notice that the Board of

Agriculture gives the following solution: Sulphate of iron, 25 pounds; sulphuric acid, 1 pint; water, 50 gallons, to be used as a spray when buds are dormant, as an application against what reads from its description as being apple scab, though called by the Board of Agriculture brown rot, and which is possibly the same as our bitter rot. The description is: "Brownish scattered patches on the skin, followed by the growth of dull-gray tufts arranged in irregular concentric rings. The fruit attacked does not rot or decay, but becomes mummified."

Anything tending to fight the terrible scourge of the more especially beloved winesap, must be of interest to its growers. An attack of scab as fruit is setting is by many misconstrued to frost, cold wind, etc., instead to the insidious spore destroying its prey.

Let us not deceive ourselves, thinking all will be well another season, though a dry one may bring some amelioration. Either the grower must get the better of his enemy or hope deferred will cause regret of a tolerance in not surplanting. I encountered the owner of a large orchard of winesaps not long ago who accounted for the barrenness of his trees by their being all "he" trees, and consequently not bearing ones. If a microbe has a sense of the ludicrous how it must have been amused. W. M.

Albemarle county, Va.

Will the Mycologist at the Experiment Station kindly note and reply. The inquiry reached us too late for us to send it to him for reply in this issue.—E.E.

Bermuda Grass.

Can I set a field in Bermuda grass and seed it in wheat at the same time and get a stand of Bermuda grass? O. E. SHOOK.

Iredell county, N. C.

Whilst we have had no experience in planting Bermuda grass and wheat together, yet we do not doubt but that you can succeed in getting a stand in this way. If the wheat crop is thick the grass will not make much growth until the wheat is cut, as shading heavily is one of the best methods known for destroying Bermuda.—E.D.

Spraying Fruit Trees.

I dare say it is quite puerile to say what I must in this. It is about spraying fruit trees with the different preparations given in your March number. I know nothing of the orchard. Have never before had the care of one, so don't know when nor how to spray them. My apples and pears are doing moderately well. Pears are better than apples; but peaches and plums do all right till the turning

period. Then they rot, shrivel up. The orchard is low and almost sobby. I remember my father used to bore into the body of his trees and fill the hole with sulphur and stop it up, but for what purpose I've forgotten, or with what result. I dug around a few of my trees last spring and put lime around some, sulphur around others and sol. carbolic acid around others—experimenting. So far can see no difference. I am in the country forty-odd miles from a market, so find it inconvenient to get the sprays as per your journal. I keep a dispensary on hand—am an old druggist. Is there no cheaper method of treating my sick trees and no way more convenient than that given in the SOUTHERN PLANTER?

Berkley county, S. C.

JAMES JOYNER.

The advice given in our March issue as to spraying trees is founded on the best authorities on the subject in this country. No other means are known for the control of fungoid and insect enemies than those given in the spray calendar. You might as well bore holes in the trees and fill them with wine in order to strengthen them as fill them with sulphur or any other drug to cure them. The trees will not utilize either the one or the other. It will remain inert in the holes.—E.D.

Ice House.

I wish to build an ice house convenient to my dwelling, but cannot build in the ground on account of water rising. I can go down about five or six feet in the ground and get drainage, and what I wish to do is to have the house six feet in the ground built up with rock and cemented and six or seven feet above ground; double wall packed with sawdust. Now, what I wish to know is will ice keep next to rock or cement? I have also heard that ice will not *keep for five or six feet below the earth's surface* on account of the heat in the earth to that depth. Is this true? If so, of course all above would melt and the house would be a failure. Please give me the above information in your August number.

A SUBSCRIBER.

Whilst an ice house built below ground, with either stone or cement, will keep ice if the walls are thick enough, yet the best modern ice houses are now altogether built above ground as being cheaper, more convenient, and equally effective. What is needed is a building with double walls a foot apart, and the foot space tightly packed with sawdust, with a double roof. There must also be good drainage provided, and the drain should be trapped by having a bend in it to hold water so as to prevent the access of warm air. Provide for good ventillation over the top of the ice by having a ventillator in each end of the roof.—E.D.

Trucking, Garden and Orchard.

WORK FOR THE MONTH.

All crops of fruit and vegetables should be carefully gathered as they mature and become fit for market or storage. They should be placed under cover and out of the sun to cool off before being either packed for shipment or put away in storage. Carefully sort and cull out all defective specimens and ship or store only the perfect ones. If the defective culls amount in quantity to more than can be conveniently used at home ship them in separate packages and mark them distinctly as culls and they will not then prejudice the sale of the best. Mixed shipments always sell for the price of the poorest. As far as possible keep the defective products off the markets as they only serve to glut them and bring down the price of the first quality.

Fall cabbage seed should be sown at once on rich beds in a moist situation and push on the growth of the plants as quickly as possible, so that they may escape the attacks of fly and worms. A light sprinkling of nitrate of soda over the beds just previous to a gentle rain will help them. The plants should be ready to set out in September and they will then make nice heads in the late fall. Flat Dutch and Savoy are good varieties.

Broccoli plants may be set out during the latter part of this month. They will make heads for cutting in October and November. Treat like cabbages. They are as easily grown as cabbages and sell well. They make a head like a cauliflower.

English peas and snap beans may be sown for a fall crop in Eastern Virginia and North Carolina. They are uncertain as to yield, but if the fall be mild and frosts hold off they make a crop which sells well and is always acceptable at home.

Kale and spinach may be sown at the end of the month.

In our last issue we wrote on the fall Irish potato crops, and to this issue refer our readers. No time should now be lost in getting the crop planted.

Celery plants may now be set out from the seed beds. Celery requires rich, moist soil in order that the growth may be quick or the stalks will not be ten-

der. Make the land rich with well rotted farm-yard manure, which may be supplemented with a fertilizer having 7 per cent. of ammonia, 5 per cent. phosphoric acid and 8 per cent. potash. The land should be deeply broken and cultivated finely. The plants should be set out about six inches apart, so as to grow closely and exclude the light and thus help in bleaching the stalks. If the variety grown is not a self-bleaching variety the plants should be set in rows five feet apart, so as to allow banking the soil up to the plants to bleach them. When setting out in rows we always set two rows of plants about six inches apart in each row and they can then be earthed up together. As the plants grow a little soil should be drawn to them at intervals so as to keep the plants from spreading out, and then when fully grown be earthed up to the top. When banking the soil up to the plant hold the stalks of each plant close together, so as to keep the soil out of the hearts of the plants. If celery can be set out where it can be irrigated it will be a great advantage, as it succeeds well with frequent irrigation.

As the crops mature clean the land of all trash and waste, and if not wanted for any other crop sow crimson clover to occupy the land during the winter and conserve and improve the fertility.

All cultivation should cease in the orchard and small fruit patches, so as to encourage ripening of the wood.

The land for strawberry planting should be ploughed and harrowed so as to encourage germination of the weeds, which can then be killed.

GROWING STRAWBERRIES IN POTS.

A subscriber asks us to tell him about growing strawberries in pots to secure plants which will give a crop the first year. There is no difficulty about this work. Some writers advise that pots should be filled with soil and be sunk in the ground near the old plants and the runners be trained and pegged over them so as to root in the pots; but this is a work which causes much unnecessary labor. We would fill the pots with good rich soil, providing plenty of drainage in each, and then cut off runners which have commenced to form roots and set them in

the pots and keep them moist and shaded for a few days, when they will at once commence to grow. In selecting the runners take the plant first formed on the runner for potting. It will be the strongest plant. Growth should be encouraged in the pots by watering with weak manure water or water in which a little nitrate of soda has been dissolved, and on the approach of cold weather they should be protected at night. In the early spring they should be turned out of the pots without disturbing the roots and they will continue their growth and make fruit.

ORCHARD AND GARDEN NOTES.

Editor Southern Planter:

Harvest time in the orchard and garden has now come. The fruits of our labors can now be seen. The pleasures that come from gathering and eating the fine fruits and vegetables from our own gardens are great. These fruits and vegetables, as they appear growing upon the trees and vines look much more beautiful and taste much better than those bruised and inferior flavored ones that are shipped long distances to the cities. Many of our city friends do not know any thing about the best fruits and vegetables.

While we are gathering these fine products we must not fail to learn lessons about effects that different varieties, different soils and different cultural methods have produced upon the quality and quantity of the crops. I have had an opportunity to notice the fruiting habits of Early Harvest, Red June and Transparent apples, and to test their table qualities. Each one of these early fruits has some special claim in its favor different from the others.

Red June has a better color, but appears to be rather a shy bearer; Early Harvest is a little small, but is prolific and of good flavor, and Transparent is almost too acid, unless extremely ripe, but it is of good size and bears quite young.

The great rush of spring and summer work is now over. The farmer usually has more spare time during this month than any other summer or spring month. I want to suggest that the farmer's family take a few days for rest and recreation. Let us change the scenes a little. "All work and no play makes a dull boy." Take an outing. Drive the family to some good spring near by and spend a few days. Dine at some good hotel in the city and let the boy get a glimpse of city life. Then explain to him how city folks live, so that he may not be so anxious to

leave the old homestead to learn about city life by himself. A few dollars spent for the family in this way may prove to be the best investment the farmer can make. Try it. Let the boy go with a large shipment of produce to the market and watch the various ways it is handled before it reaches the consumer. This will teach him how to prepare things for market in the best possible manner. This question of how to market products is of as much importance frequently as how to grow them. The farmer should study the marketing now when taking his vacation.

Shall the farmer's boy be sent to college this year? If so, where? This is one of the most important questions that usually engages the farmer's attention during this month. Does the farmer's boy need an education? If not, why do men go to colleges to study law and medicine? The father sometimes tells his boy that he (the father) has made a success in life without a college education and his son ought to do equally as well without one. This kind of reasoning has frequently decided the fate of many bright and ambitious farm boys. While such reasoning appears sound on its face, still it is very unsound and misleading. The same father might ask also how many men *without* a college education have made *failures*. Conditions have greatly changed since he grew up. People are more thickly settled, population has increased, competition has become great and the requirements of society and the business world have grown immensely. There are many more avenues of pleasure opened up to the educated man than the uneducated. He is of more benefit to his fellow-man and the community. Instead of leaving the young man so many dollars to spend after the father is dead it would often be far better to spend the money in educating the young man and leave him a well-trained mind and a sound manhood. The boy will climb the ladder then instead of coming down.

But what kind of an education is best for the farmer's boy? This question should be discussed with the boy very frankly, and some time should be given before making a decision. If the boy wants to make a farmer the decision is made at once. Send him to a good agricultural and mechanical college. While a good farmer's boy will usually be successful in most any business or professional line he may choose to enter, still the great demand now is for men trained in the technical branches. The demand for men with a classical education has become very limited. The dead languages no longer hold the greater influence in our colleges and universities. If the boy

is sent to college to make such things his main study, that is his first step in being educated away from the farm. The dignity of farming in Virginia and other Southern States is gaining ground rapidly. Virginia has an ex-Governor who was proud of the title, "Farmer Governor." Some of the wealthiest and most influential men of the State now own large pippin orchards or fine herds of registered cattle. One of our senators delights to spend his summers on his farm. Things are turning farmerward in Virginia. Encourage the boy to be a farmer. Teach him that it is honorable. There is at least one good college where he can go, at small expense, to study agriculture or horticulture. He will be respected and encouraged in his work at this institution. Send a postal-card for a catalogue of the Agricultural and Mechanical College (Virginia Polytechnic Institute) located at Blacksburg, Va. This catalogue is now before me, and I notice that a two-year course in "*practical agriculture*" is given at this institution. I would like to see a number of young farmers take this course. The President of the Board has approved the short winter course idea that I suggested in the *PLANTER*, and I hope to see this course offered at the college in a short time. More money is needed for broadening the agricultural features at this institution, and I hope the necessary money will be given by the next Legislature. The Legislature of Illinois recently gave the agricultural college of that State \$100,000 for "equipment and instructional work in the Department of Agriculture." Virginians have not been educated up to the point to even ask for such an amount, both for equipment and building, for the agricultural work of the State, but we are coming. If the farmers will vote in the primaries this fall for those who favor the advancement of the agricultural interests of the State we will be coming faster.

R. H. PRICE.

Montgomery county.

FIRE BLIGHT ON PEARS.

At the Virginia Experiment Station at Blacksburg, a pear orchard was planted in 1889, in which were set out over thirty different varieties. This orchard has had the constant care and attention of the Horticulturist and Mycologist of the station, with the hope of demonstrating the possibility of growing pears successfully in this State where fire blight has been a constant source of loss and discouragement to orchardists. Up to 1899, when the orchard was 10 years old, this care resulted in gratifying success, there being to that date only slight attacks of the

disease, and these were controlled by cutting away the diseased portions supplemented by thorough use of the Bordeaux spray. During 1900 the attack of blight became very severe, and regardless of cutting out wood and thorough application of Bordeaux, some of the trees were entirely destroyed before mid-summer. In a further effort to save the orchard the trees were carefully gone over in the winter of 1900-1901 and all blighted wood removed, except blight spots on the trunks and main limbs of trees that were desired to be attempted to be saved. These were carefully scraped, removing all the dead bark as far as possible and later the trunks and main limbs were treated with a lime-bluestone wash made by using two pounds of bluestone, four pounds of lime and three gallons of water, and was prepared as follows: The bluestone was dissolved in hot water, the lime carefully slacked in hot water and the two were then mixed together and thinned so as to make three gallons of the mixture. This was applied so as to thoroughly coat the trunks and main limbs. The trees themselves were thoroughly sprayed in March with a solution of bluestone—two pounds to fifty gallons of water. In April and twice in May the trees were sprayed with Bordeaux mixture. Notwithstanding all this work and the cutting out of all diseased wood, the blight continued to make headway.

On June 4th the pear blight was again quite general throughout the orchard, and certain trees were so badly diseased that it was decided to remove them. At the end of the season of 1901 the orchard presented a most serious condition of affairs. A considerable number of trees had already been removed, others had been cut to stumps, and it was now necessary to again remove a considerable number of trees and to cut others back to mere stubs or to short spurs of limbs around the head of the trunk in order to remove, as far as possible, the diseased wood.

The subsequent efforts made to combat the disease and the result are described in the following bulletin from the Mycologist, Professor Alwood:

During the winter of 1901-1902 the trees were carefully searched for blighted wood and the same removed, except where certain blight spots on the trunk and main limbs could not well be cut away without destroying portions of the trees which were yet alive. Those trees which were thought to be quite beyond remedial treatment were cut out. All the wounds made in the heavy cutting of diseased tissue were covered with thick white lead paint, this being our usual custom in such work.

During the last week in March the pear orchard was sprayed so as to thoroughly drench all parts of

the trees with a lye wash, made by using concentrated lye in solution, so as to give a strength of 3 degrees on the Beaume spindle, it requiring about seven pounds of the concentrated lye to each fifty gallons of water to make the strength required. This wash was given for its cleansing effect, as has been our custom to do about once in three years.

On April 3d the trees still remaining in the pear orchard were treated as follows with a prepared fertilizer composed of 300 pounds of 16 per cent. dissolved South Carolina phosphate and 150 pounds of muriate potash. There were seventy-five trees still standing in the pear orchard, and this quantity of fertilizer was sowed broadcast in equal quantities around these trees, thus making an application of six pounds per tree. The ground had been previously cultivated with a disc harrow, and after the application of fertilizer was made a slight cultivation was given with a straight-tooth harrow. The trees were still dormant. About two weeks later the orchard was recultivated with the disc harrow, and no further cultivation given for the year.

On April 25th the pear orchard was given the first spraying of Bordeaux, made in the usual manner. The buds were just bursting at this date and the trees were coated so as to show a thin layer of bluish powder when dry.

On May 7th the pear trees were given the second spraying with the Bordeaux mixture, care being taken to thoroughly treat all parts of the trees and to again coat the limbs and trunks with the spray preparation. This was the last treatment with Bordeaux for that season.

Slight trace of blight showed here and there on the early growth, but no serious development of the disease occurred. The only noticeable progress that the disease made during the season was on limbs and smaller branches adjacent to hold-over cases which were not cut out at the winter pruning as noted above. No summer pruning for blight was attempted during 1902. These slight occurrences resulted in the death of a few large limbs and occasional branches, but there was no spread of the trouble to the young wood as the season progressed. The trees, in many instances, took on a new vigor, and the appearance of the orchard at the close of the summer of 1902 was far better than at the close of 1901. In fact, the disease was so decidedly checked that one could not help being greatly encouraged with the result.

It should further be stated that, with the checking of the blight in the pear orchard, scarcely a twig blighted in the large variety apple orchard standing adjacent, whereas, the previous year twig blight occurred very generally throughout the apple orchard.

SPRING OF 1903.

This season the orchard has been treated as fol-

lows: The few dead limbs and branches resulting from last season's action of blight were cut out when still dormant. No winter wash was used. Though the orchard has a dilapidated appearance from severe cutting, it shows no particular extension of blighted areas on trunks and limbs. Unfortunately, the impassable condition of our road to the depot rendered it impossible to secure the material for making the tonic fertilizer as early as we had wished. The application was prepared, however, as specified under a previous section of this report, and *ten pounds* used broadcast around each tree, on April 22, 1903, spreading the same for a radius of six to eight feet about the trees.

The first Bordeaux treatment was given April 20th, just as buds were opening, and the second May 18th, after bloom had fallen.

The orchard has been cultivated three times with a disc harrow, and will be given no further culture or treatment of any sort. The coming fall we ought to be able to make pretty positive statements as to the results of this tonic treatment for pear blight.

At this writing (June 1, 1903), the trees are, with few exceptions, making a vigorous growth, and in some cases forming new heads from bare trunks where the tops were cut away at 12 and 13 years old.

CONCLUSIONS.

1. Our efforts to stay the fire blight by cutting out diseased tissue and by the use of Bordeaux sprays over the entire trees, and washes on the trunk, have failed to hold the disease in check, but we think this preliminary effort to control the disease should not be neglected.

2. It appears that we are warranted in saying that the fertilizer used on pear trees suffering from fire blight has enabled them to resist the disease to a very marked degree. These tests must be repeated for a series of years, and under varying conditions, before a final pronouncement can be made.

3. It is, in our opinion, bad policy to cultivate pear orchards in summer, or, in fact, after the bloom falls, and such orchards are apparently more healthy if planted on rather dry, stiff soil.

b. After our experience with the blight we suggest the following list of varieties for home use and commercial planting. Well treated, these would appear to promise the best results:

For summer.—Bartlett and Tyson.

For autumn and late fruit.—Seckel, Bosc (finest quality, amateur only), Louise, Rutter, Kieffer (especially for commercial purposes) and Lawrence. This latter, if well handled, can be held until late; quality is fine.

WILLIAM B. ALWOOD,

Mycologist, etc.

Experiment Station, Blacksburg, Va., June 30, 1903.

Live Stock and Dairy.

A DEHORNING PEN.

A subscriber writes us asking that we give him some points about building a pen for holding cattle whilst being dehorned. A very simple arrangement will meet all the needs of a dehorning pen. Indeed, we know of one gentleman who every year dehornes a large number of cattle whose only pen (if such it can be called) is simply a forked tree. Near to his stable a large tree has grown which, at about three feet above the ground, divides into two limbs between which the head of a cow can be easily passed. When once through, pressing the head down a little and holding it there by the nose, fixes the animal so that the head cannot be moved. The horns are then taken off and the head of the cow raised and the animal set at liberty. A dehorning pen can do no better than follow this simple plan, except that it should be made of strong rails down each side so that when once in it the animal's body will be also confined, so as not to have room to move to either side. Make the end of the pen through which the head projects of two strong upright posts and a couple of rails near the bottom to hold these together and let the space between these two uprights be only sufficiently wide for the head below the horns to pass through. Fix a strong cross-bar with a hinge to the top of one of these uprights and when the head is in position between them close this down on the neck and fasten with a staple in the other upright and thus hold the head fast.

LIVE STOCK AT ST. LOUIS.

F. D. Coburn, Chief of the Department of Live Stock of the Louisiana Purchase Exposition, has arranged for a total of over 26,000 prizes in the classifications for horses, cattle, sheep, swine, poultry, etc., for the World's Fair show next year. These are unprecedented in amount and are divided among twelve breeds of beef and dual purpose cattle with 2,352 prizes; four breeds of dairy cattle, 560 prizes; nineteen breeds of horses, 3,458 prizes; eleven breeds of swine, 2,772 prizes; fourteen breeds of sheep, 2,548 prizes; 375 varieties of poultry and pigeons, 10,300 prizes; fifty-seven breeds of dogs, 2,604 prizes. There are thirty-two additional prizes for single cows and herds entered in the dairy demonstration; five for oxen; fifty-five for mules and 1,310 for the estimated displays of pet stock, vehicles, etc.

Provision has been made for five cash prizes and two honorable mention awards in most sections except poultry. The final arrangements of the classifications may still further enlarge the number of prizes offered.

THE PROFITABLE COLT.

Editor Southern Planter:

In many cases some of the work horses on the farm may be brood mares. Usually such mares have less to do in winter. They can have their colts in November and suckle them through the winter months. Sometimes it is difficult to get the mares to breed at the desired time of the year. At least have the colt come in April or not before September 30th.

As soon as the colt comes into the world see that its nose is uncovered as soon as the body is exposed to the air, and there may be cases where the navel needs attention, but nature generally takes care of that. Leave the colt with the dam for awhile and let her take care of it, but if after two or three hours it has not had any milk help it to get some. As a rule the foal gets a good portion within a half hour after being born. Be sure the dam has sufficient milk, or if the udder is full and hard rub it and start the flow. If the milk does not move the bowels properly a little castor oil should be given, and sometimes it is necessary to give an injection. When the colt is about a day old go into the stable and get in front of him, sitting down several feet away. Just sit still with your hat off so he will not knock it off and scare himself. He is a very curious little fellow and will not be long in getting to see what you are. Be very quiet and let him have his own way till he begins picking at you. After giving him time to become interested reach out quietly and tickle him a little on the breast, which he will greatly enjoy. After a short time you may begin to rub him a little and tickle him between the forelegs till he begins to try to lay down on you. Now you have his confidence, which, if you will repeat the lesson once or twice more, you may have always, if you will treat him kindly. Always catch the colt and hold him by putting one arm in front and one back of him. The pivotal point of action is the center of the body—fasten him in front and he tries to go backward; fasten him at the rear and he tries to go forward. You can easily hold the colt if you place one arm

under the neck and the other under the ham. Handle him first on one side then on the other, and give him a lump of sugar. He may not eat it at first, but pass it around his mouth and he will soon learn to like it.

When about a week old put on a strong, neatly-fitting halter and tie the colt up. If the halter does not fit he will soon learn to rub it off and a habit is formed that is almost impossible to cure. If he pulls back, to counteract this, place a strap around his body just in front of his hind legs. Attach a rope to this and run it through a ring in the halter. When the colt goes back pull him up to you; then give him some sugar. By the time he is two weeks old he should have been taught to lead and stand while his mother is taken out to water. Next put on the headstall with a bit and let him get accustomed to it.

The mare should be kept in a box stall for a short time after foaling, and as soon as the colt becomes accustomed to being haltered tie the mare in a single stall. When she goes to work he should not be allowed to follow her, but is better off in the stall—all the better if a paddock is attached. For the first month if the colt cannot be taken to the dam she should be brought up in the middle of the day to suckle him. If she is on pasture the colt will early learn to partake of the same. Teach him to eat when from 3 to 4 weeks old by providing a self-feeder where he can get oats and bran at all times. There is no danger of him eating too much. Aim to keep him growing well and see to it that he is getting a good grain ration and is in good thrift at weaning time—5 or 6 months old. Separate the two so they cannot see or hear each other and by kindness and perseverance the colt will soon forget to worry. To dry the mare feed straw and decrease the amount of water.

The first year after weaning is usually the hardest time in the life of the colt, and we should give him extra care and feed at this time. Some breeders feed much grain the first winter. At any rate, he should be kept growing, but not at all fat before he is 3 years old. There are no grain feeds better adapted to growing muscle and bone than oats and bran with an addition of about a pint of oil meal a day. No corn is needed, except in cold weather. Clover or alfalfa hay and bluegrass pasturage furnish excellent feed. Grinding feed is unnecessary, as the operation takes time and money. The time of the colt is not worth anything; therefore, he can safely put it in grinding his own feed. He has nothing else to do and likes it. He will not pass any

grain whole if he is in perfect health. Potatoes are an excellent food for the colt. It is well to cut them and dust over with a little grain. Carrots are also recommended as a feed to build a good frame and solid body. If he is nervous decrease the quantity of oats.

Allow him free range and exposure to outdoor weather common to older stock in the more clement seasons. Keep the feet straight with a rasp.

A fall colt thus treated is ready to make full growth, and instead of being at two and a half years no better than the 2-year-old, as is often the case, he will be about as good as a 3-year-old.

GEORGE H. C. WILLIAMS.

United States Department Agriculture, Washington, D. C.

MORE LIVE STOCK.

Editor Southern Planter:

The market conditions for stock-raising—including all meat-producing animals—offer such inducements to farmers as ought to influence them to produce all the live stock their farms will sustain. Beef is way up in price, and the demand is greater than the supply. This is just what the farmer wants. Breeding stock is also scarce and must be grown to meet the demand. So also is good dairy stock. For milk and butter prices are so favorable and demand for good milk and butter so great—that of the “gilt-edge” variety, especially—the supply does not begin to meet the demand.

Prices of both mutton and wool are high, and indications point that they will go still higher. The heavy sheep losses in Australia and the great decrease in exports of both sheep and wool from such an extensive shipping point, indicate at least no decrease from present prices.

The losses among the flocks and herds throughout the Northwest will also influence prices for some time to come.

Every one at all acquainted with stock raising knows of the shortage in hogs for both breeding and market purposes. Hogs bring quick money, and if properly handled plenty of it and good returns on capital invested.

Sheep are easily handled and they also bring quick money and from two sources—mutton and wool.

Cattle have made many rich, and will still make many more rich, unless vegetarians get us. Goats are also attracting much attention, and if figures

speaking truly they can be profitably handled, especially so where land is to be cleared of weeds and scrub growth.

Fortunately, there is variety enough of live stock for each man to select that which best suits his fancy, his ability or his surroundings. He can select which ever breed of stock suits his purpose best, but when choice is followed thus far let him stick to it. Rarely ever does the man who changes from sheep to hogs and hogs to cattle and perhaps from cattle to horses, do well. There are exceptions—this only proves the rule—where circumstances are such that a change is beneficial, even essential; but, generally speaking, the man who studiously makes his choice, sticks to it and is carefully observant of the details of his business is the successful man.

Another condition besides that of the markets must be considered by the farmer. The time is passing when cattle and sheep can be run on the plains in any number. These plains are rapidly being turned into farms, and for some years ranches have been moving farther and farther west to give place to settlers. Sheep and cattle have moved nearer together, until the result has been the war between the sheep and cattle men so disgraceful to our history; and the end is not yet. These wars but prove the shortage of grazing lands. In all of the Western States range lands are taken up by settlers—thousands of farms in each State every year—until the end must be—and that not far distant—when live stock growing and grain growing must be done together on the farm. This has great advantages for the farmer, especially those who possess farms where grain growing solely has weakened the soil, as in the southern part of the United States, separated from the North and West to some extent by the civil war and the consequences resulting. Here are many large farms where part of the land is cultivated, part in timber and much left unused, save for commons. Take, for example, the State of Virginia. These conditions are existant here. Grain and tobacco are produced in considerable quantities; much commercial fertilizer is used. Thoroughbred stock for breeding purposes is raised throughout the State to some extent; but little feeding is done, however. Where either is followed the difference in the condition of that farm and those joining is amazing. There are many sections of the United States where grass for hay or grazing purposes cannot be produced that will compare with that grown in these places. Corn, grains and clovers, including alfalfa, will compare well with those raised in other sections, and the water supply is as good as can be had anywhere.

Land throughout this section can be bought very cheap—from \$5 per acre up—in some instances very good improvements included. However, when the farmer awakes to the fact that the best way to market farm produce is in the shape of meat or dairy products, these conditions will change.

If every farmer would put, or keep, on his place all the stock it would carry until every field and pasture came into a high state of fertility, the ease and profit with which he could handle his farm would be a pleasant surprise to him. The more stock he raised the more and better grain he could grow, and with more grain more stock would follow, until our lands attained as high a state of fertility and cultivation as the world-renowned agricultural lands of England.

While there is much to be said in favor of herding on the ranges, there is to that, as to most things, two sides. Range stock is frequently exposed to diseases by bringing in new stock, to poison from eating poisonous plants when grazing is scarce or when moving from one place to another; also, some loss from wild animals, more especially among sheep, and in time of drought to intense suffering and loss for want of both feed and water, and every winter leaves tales to tell of snow-covered ranges, where the weakest in every herd succumb to cold and starvation.

Any, or, indeed, all, of these conditions may confront a farmer-stockman, but at the same time he has at hand means to combat them that a range man has not. With a part of his land in grass and cultivation he can, in the most unfavorable season, provide enough feed to bring his stock through. By judiciously fencing, water can be provided on most farms so as to be available in each grazing field, and facilities are at hand for separating from the herds those in a poorer condition and giving to them the extra attention required to put them into shape.

There is also an advantage in producing stock as near as possible to where it is to be marketed, and this can be done here to a far greater extent than it is anywhere east of the Mississippi river, where markets are so near at hand and of the highest.

The time is at hand when every farmer—yes, and stockman—must settle this matter for himself and put it into practice. The time is past when a man who was not possessed of wit enough for anything else would do for a farmer. The government has done much toward educating as to the need of scientific farming and farming as a business investment, by publishing and freely circulating the annual reports of the Departments of Agriculture in each State, the Experiment Station reports and by aiding State ag-

ricultural colleges, etc. When we really know what we need we are sure to have it. In the last decade we have made rapid progress in our farming methods, both as to agricultural features and stock raising. The up-to-date farmer has a comfortable home with some of the luxuries in it that are so attractive to the people, that were exclusively city conveniences not many years ago. He has a carriage and horses that are frequently used by the family, also has time and sympathy for social enjoyments. These things, with an agricultural college education, will fit the young people to become good farmers. Simply because a certain boy is a little more intelligent than the average is no reason why he should go away to the city to shut himself up in a little, dark office and for fifty weeks a year do precisely and exactly as he is told or lose his job. Many do that when they might be the owners of fine farms with fields of waving grain and herds of sleek cattle and sheep grazing contentedly on the pastures, and all as a result of their own ability and management.

A man is tied to his farm? Certainly, who is not tied? It is only the question of the length of the rope with which he is tied, and, broadly speaking, the salaried man of the cities is tied with the shortest.

Fluvanna county, Va. E. A. KENNICOTT.

When sending us the foregoing, Mr. Kennicott said: "It has been my lot to become acquainted with farming and stock-raising conditions through the North and West, and in no place have I seen equally good conditions, naturally, as here. I have also seen corn and forage grown here that are entirely convincing as to what can be done." He said that a friend of his, one of the editors of the *Chicago Daily Drovers*, had recently visited him in Fluvanna county. This was his first visit to this part of the country and he remarked that he had never seen such possibilities for sheep raising as in this part of the State of Virginia, though his travels had been considerable. Mr. Kennicott is one of a class of men of whom we want to see hundreds in the South. A man who realizes and knows what are the possibilities of live-stock farming and who appreciates the truth of what we have so frequently asserted, that there is no location in the whole country so well fitted in every way for the wideawake, live stockman as this Atlantic coast section of the South.—ED.

RAISING COLTS.

Editor Southern Planter:

Your correspondent, "R," of Henderson county, N. C., whose inquiry for "points" on raising colts,

suggests that he does not incline toward the scrub product, as usually seen on our farms. Breeding and raising colts is very much like cropping, it depends wholly upon your theory of what you want to produce. If you intend to raise a first-class animal you must begin the operation before the colt is born by selection of dam and sire. An over-worked, poorly-nourished mare cannot be expected to produce a good colt from a cross-roads scrub sire, nor could any mare, no matter how high bred, for that matter. There is a difference of opinion whether it is best for the colt to be born in the spring or in the fall. As a matter of fact, it does not make as much difference as some people imagine, provided the dam and colt have the proper food and nourishment. The dam should not be worked but very lightly during the suckling of the foal. There are many reasons for this. Among others, the mare needs all her nourishment to maintain her own physical condition during the period of suckling her foal. If she becomes heated during work it affects the colt through the milk, and the colt is often injured in following its dam while at work.

Up to the fourth month of age the colt will thrive on its mother's milk alone; at that age it can be taught to eat finely-ground oats, one cupful, and one teaspoonful of old process linseed oil meal twice a day. At six months this should be increased to one pint of ground oats and two teaspoonsful linseed meal twice a day. It makes no difference whether the colt is on grass or hay, it should have the grain ration. Beginning with the winter it should have one pint of ground oats, one pint bran and one table-spoonful linseed-oil meal three times a day with a *light* hay ration. Never overfeed colts with hay. This can be increased until at springtime, say, 12 months old, it is getting one quart ground oats, one quart bran, one tablespoonful (heaping) of linseed-oil meal at a feed. When ready for pasture nail a small box to a post about the right height for the colt to feed easily and give him a quart of whole oats morning and night. Keep a piece of rock salt in the box all the time. If the pasture is of poor quality increase the oats. You cannot grow a good colt without good feed. You cannot raise a good crop without good land or plenty of fertilizer for plant food. This rule holds good in 999 cases out of 1,000. I have often heard of a scrub turning out to be a rarely good horse, but the other 999 were scrubs pure and simple. The fact of the matter is, you cannot produce something from nothing. Only the Almighty can do that. You cannot raise a colt, cow, sheep or hog without feed; the better the feed the

better the animal, provided always, it has the proper progenitors. We do raise horses, cows, sheep and hogs without *much* feed, and when we sell them we do not get *much* for them; but we get *much* loss in time, labor and fruitlessness of effort. One well bred, well fed, well grown colt is worth two or three scrubs, so far as profit goes, and worth twenty times as much so far as pride goes, and who has no pride?

Mecklenburg county, Va.

WHITBY.

A NOTABLE SHIPMENT OF BERKSHIRES FOR BILTMORE FARM.

Editor Southern Planter:

Berkshire breeders do not need to be reminded of that notable shipment made from the leading English herds in 1902, for they have before them the record of the annual sale held at Biltmore on February 3, 1903, when the world's average for Berkshire auction sales was made. The sound judgment and expert knowledge displayed by Mr. G. F. Western and his most able assistant, Mr. R. Gentry, in making that notable importation, was more than confirmed and justified by the grand result then obtained.

Experience has proved that, notwithstanding the size of the Biltmore herd, it has been of itself unable after supplying the heavy requirements of private customers, to accumulate a sufficient reserve for its annual sale, and hence for this object, as well as because there is no question but that the results secured from English stock are such as justify their importation, another visit has just been made to England, and, to the surprise of both Mr. Weston and Mr. Gentry, they have been able to secure for their fourth importation a selection of swine which, for their grand breeding, individual merit and typical character are far ahead of any of the previous importations. Why is this so many on your side will naturally be inclined to ask. The reply is, however, one easily given—namely, that the recuperative power of the English herds is so great that were 75 per cent. of their best pigs taken the breeders would, with perfect ease, from those left soon produce as good, or even a better, lot.

The main reasons why Mr. Vanderbilt, by the aid of the consummate judgment and skill of Mr. Western undertakes these annual importations, is a most laudable one—namely, the improvement of the breed in America. The experience at Biltmore is such that there is now no question but that if one desires to secure the most typical and best Berkshires he must either secure the services of an English animal or some of their direct descendants. This having been

proven beyond dispute, there is no further occasion for argument, and it may, therefore, be anticipated with certainty that the Biltmore sale on February 9, 1904, will prove equally as successful as the previous annual sales have been, which, like the forthcoming sale, consisted entirely of imported stock. The present importation left England on the 19th of June under the personal control and management of that well-known expert and judge, Mr. Gentry, and, like all the preceding importations, contained only animals of the very choicest pedigree and breeding, which were either themselves or their sires and dams prize winners. In fact, none but prize winning stock have been taken. Another, and probably equally important *sine qua non* was also made a condition of selection—namely, that no pig, no matter how choice its pedigree or perfect its symmetry, was included unless it had plenty of stamina, sound constitution, good joints and feet and that had not in its veins that blood which had in previous importations proved itself to be specially fitted for crossing with American-bred stock.

The present consignment of about seventy-five head includes the following noted swine, which were selected regardless of cost and at about from 25 to 30 per cent. higher prices than the previous importation, which arose from two facts—first, higher quality; and, secondly, on account of the increased demand for Berkshires in England:

Taking the different herds in order, we first deal with that record selection made from the herd owned by Mr. R. W. Hudson, of Danesfield, Marlow, Berkshire, from which forty-eight head were selected, a fact that at once discloses the very exceptional merit of this notable herd. All the show pigs of the present year, except one, were taken, this one having been previously sold. The first selected was Danesfield Warrior, by Manor Favorite out of D. Porter's 1st, tracing to the well known Pinnock blood. This boar is a noted winner of first and champion prizes, including the Royal Show at Carlisle. He was left last year because he had not then proved himself a stock getter, this he has done and will be a valuable acquisition to any herd. D. Julius, an own brother to this boar, is now stud boar in Sir A. Henderson's herd. Nine other boars are included from this herd, amongst them Danesfield Huntsman, First at Royal Counties Show this year. His own brother, who has been bred on many of the imported sows, being also included. The last named, by a very choice boar by Danesfield, Haymaker, out of Danesfield Huntress, one of the choicest strains of blood. The old sow, The Huntress, has also been secured from Mr. E. Hayter, and is included in this consignment. The Vain Maid blood

is typically represented by Danesfield Swansea, a choicely bred boar. for he comes out of a daughter of old Vain Maid, imported by Mr. Vanderbilt in 1898, and whose produce has been eminently successful wherever exhibited.

The sows and gilts from Mr. Hudson number thirty-eight head, a notable lot they are, space will not allow of detailed mention of all, but we take a few as typical of the rest. Gentle Jane is the dam of Swansea, stud boar at H. R. H. Prince Christian's farm, and a dam of many winners, including the Royal Show from 1901 to 1903. Danesfield Huntress, to which reference has been made above, and three of her best daughters, all by Lord Carnarvon's noted stud boar, Drogheda. Two grandsons out of Danesfield Mistress by Danesfield Haymaker, five sons out of Danesfield Governess, who was not for sale, her value being so great. These have as their sire Danesfield Loyal, a son of Loyal Berks, whose value is so well known and appreciated in America as to render any further reference unnecessary. Then we have that grand sow, Highclere 57th, by Blenheim, a most valuable strain of blood. This sow's exportation is a serious loss to the English herds because with her goes almost the last of this most valuable strain of blood; three of her daughters go with her, all by that notable boar, Danesfield Haymaker; Danesfield Countess, out of Danesfield Duchess by Manor Favorite, served by Danesfield Loyal, goes as well, a grand, typical son of highest merit. Links Alive, by Manor Very Choice, by Julius Cæsar, is another valuable sow. Manor Very Choice was sire of many animals sold at Biltmore sale in 1900, and is a double cross of Ministry blood, a line of blood that has been most successful both in England and America.

Mr. E. Hayter's grand herd, one of those small, select herds which are good all through, supplies six head, amongst them The Huntress, a grand sow, founder of her line of blood, and one so highly appreciated at Biltmore that an effort is being made to secure the whole of it, no less than five generations are now at Biltmore. Tact, by History, a notable boar, being a combination of very choice lines of blood, is a grand brood sow, a dam of prize winners for two of her gilts were at Andover in keen competition and are included in this selection, as is also Sterling Balm, a daughter of the noted Blenheim, out of a Stumpy Sow, whose pedigree includes those noted sires and dams Ministry, Hampton Park, by Longstock, out of Wicket Lass. The other animal from this herd is Lord Lyon, by Handyman, imported as a stud boar for Biltmore. He will not be included in the sale unless later arrangements cause

alteration. He is about the best boar that has left England for many a day, and his stock, if all goes well, will be of the highest value.

Mr. C. C. Smith's herd provides a very typical lot of sows, mainly of the Rubicell blood, as represented by that grand old sow, Old Queen of Hearts, already well known to Americans by her produce at previous sales. These are sired by Lisle Grand Duke 1st at Andover; 2d at Southampton, and 2d at the Bath and West of England in 1903, two other gilts by College Boy, out of Lisle Duchess, a thoroughly typical lot of highest merit. A pair of specially well bred sons from Mr. P. L. Mills of the noted Melody strain of blood, by Flagstaff, and a selection of special merit and quality concludes this most notable shipment, which takes from England some of the choicest of her Berkshires to enrich and improve those of America.

W. W. CHAPMAN.

London, England.

TICKS ON CATTLE.

Editor Southern Planter:

Referring to your remedy for ticks on cattle, in reply to inquiry from T. C. Massie, please allow me to suggest a better and simpler one: Mix equal parts of common table salt and sulphur, pulverize and put in the troughs or on any clean, hard surface where the cattle can lick it, giving as much as they will lick up clean, say, as much as can be picked up in the hand, and give regularly once a week during the tick season. If ticks are very bad three parts sulphur to one part salt can be used. The sulphur works out through the pores of the skin, making the ticks drop off, and it is also a fine blood purifier, keeping cattle and all kinds of stock in excellent condition. The cattle seem to like it, and mine lick it up clean. I put it on clean, flat rocks, boards, in troughs, or if none of these are convenient on bare, hard ground.

I started out this year to keep my cattle free from ticks if possible, and had often heard of the sulphur remedy before, but had never given a thorough and persistent trial. I put my cattle on pasture March 30th, and at first gave them a mixture of one part sulphur to three parts salt. First ticks appeared April 27th, and I at once increased the sulphur to one half. Since then my cattle have been comparatively free of ticks and in first-class condition in every way. Occasionally I will see one with a few ticks, but they do not amount to anything. Last year they were covered with ticks. The mixture must be thoroughly pulverized and mixed together, and given once or twice a week, as necessity demands.

Lafayette county, Ala.

WALTER ANDREWS.

The Poultry Yard.

EGGS AND THE COST OF PRODUCTION.

In our October issue last year we published a report giving the results of co-operative experiments made in New York State with a number of different flocks of poultry to ascertain the average cost of winter egg production. The experiment was under the supervision of the Cornell Experiment Station. This experiment, which concluded in March, 1902, was continued with four of the flocks then amalgamated into three, so as to cover a whole year. The flocks experimented with were A, B and C and K. The following report gives the result of the year's work:

YEARLY PRODUCTION OF EGGS.

Flock.	Average number of hens.	Total No. of eggs produced.	Average No. of eggs per hen.	Average daily production per 100 hens.
A.....	508½	59446	116.9	31.3
B and C....	289¾	39813	137.4	36.8
K.....	308½	41641	134.8	36.
Average....	.....	.....	129.7	34.7

It will be seen by the above that the average number of eggs produced per hen is much less than that often claimed. Records of 200 eggs and more per hen have been frequently published in the agricultural press and elsewhere. Inasmuch as these flocks represent the better class of poultrymen, and the fowls were in all probability much better fed and cared for than average flocks, it would seem that all claimed records of more than 150 eggs per hen per year should be abundantly verified before being accepted.

FOOD COST OF ONE DOZEN EGGS.

The average monthly food cost of one dozen eggs for each flock per year was: For Flock A, 10.1 cents; Flock B and C, 7.7 cents; Flock K, 10. Average, 9.2 cents. Average selling price, 21.4 cents.

PROFIT AND LOSS.

By "profit and loss" is simply meant the relation between the cost of the food consumed and the value of the eggs produced at market rates. No account is made of anything else, and it is, therefore, not really a discussion of profit and loss, but the term is used for want of a better. In the table below is given for each flock the total cost of food, the total value of product at market rates, the total profit and the average profit per hen.

PROFIT (EXCESS OF PRODUCT OVER COST OF FOOD.)

Flock.	Average number.	Total cost of food.	Cost of food per hen.	Value of eggs.	"Profit."	"Profit" per hen.
A.....	508½	\$499.58	\$.982	\$1060.72	\$561.14	\$1.10
B and C..	2-9¾	257.10	.887	694.38	437.28	1.51
K.....	308½	347.85	1.119	757.18	409.33	1.33
Average..	.....	.....	.996	.....	.....	1.31

It will be seen that it cost just about \$1 each to feed the 1,200 fowls under experiment for one year, and that the value of the eggs at market rates exceeded the cost of food by \$1.31 each. From this must come the cost of labor, interest on investment and equipment and profit to the owner. Of the gross income very nearly 44 per cent. was required for food, leaving 56 per cent. for cost of labor, interest on investment and profit.

CONCLUSIONS.

In the year from December 1, 1901, to November 30, 1902, in three flocks representing 1,250 fowls, the average daily production of eggs was 34.7 per cent.

The total yearly production per hen averaged 129.7 eggs.

The average food cost of one dozen eggs for the year was 9.2 cents.

The average cost of feeding a hen for the year was 99.6 cents.

The average value of the eggs at market rates exceeded the cost of food by \$1.31 per hen.

Forty-four per cent. of the total value of product was required for food.

DON'T WE KEEP TOO MANY ROOSTERS?

Editor Southern Planter:

I see in July PLANTER you say to "Enquirer" not to keep over twenty hens to one rooster. Now, Mr. Editor, I would like for you to unravel a puzzle of mine. It is this: Last February and March I had from 400 to 500 hens and about twenty-five roosters. I set in those months 130 hens, which all hatched out by the middle of April about 1,600 chickens. As I did not wish to set any more eggs I disposed of my roosters except four. Those I kept to do the crowing for the farm. I have raised to eating size 1,500 chickens. Now, in the last few days two hens that stole their nests have come out and brought twenty beautiful chickens. We have found the nests and one hen sat on eleven eggs and the other on twelve eggs—only three this hot weather that did not hatch and one rooster to 100 hens. Now, this is my puzzle. Will you be so kind as to answer, and oblige your friend,

JOHN O. OTEY.

Charles City county, Va.

Our friend puts to us a poser. When we advised keeping one rooster to twenty or twenty-five hens we wrote from our long practical experience in poultry-keeping, during which time we had always found that we got best results from about this proportion. We have known good hatches to come from eggs where only one rooster ran with fifty hens, but

this is very uncertain in our experience. Every poultry keeper knows that roosters have, like human beings, their favorites amongst the female members of their flocks and will be found always consorting more continuously with these than with the whole flock. The larger the flock the greater the proportion of neglected hens and the larger the percentage of unfertilized eggs. In explanation of the good hatches made by the two hens mentioned it may be, and probably was, the case that these two hens were favorites with one of the roosters and hence the fertility of the eggs. We know it to be possible to keep too many roosters for the best fertility of the eggs. Between this and keeping too few there is, no doubt, a considerable margin, but we are inclined to the belief that we came near the correct proportion in the figures named. What say others on this subject?—
ED.

HAWKS AGAIN.

Editor Southern Planter:

Will some of the gentlemen who have been kind enough to give the information about killing hawks with strychnine help me a little further on the same subject while the case is up?

I have tried to keep hens for laying purposes, and only raise enough chickens to keep the stock up, and although the information about young chickens is very valuable, it does not meet my case, which is this: When I do not have young chickens the hawks take the hens, and you know the best layers are always the greatest foragers and will wander far from the house, so that it is impossible to watch them. The hawks then strike them down a long distance away and eat them on the spot. The hawks have grown so cunning that to trap or shoot them is out of the question. Now, what I want to know is, can I give strychnine to the grown hens so as to be effectual in killing the hawks and not hurt the eggs for eating or hatching purposes? As this poison gets assimilated with the blood will it not affect the eggs more or less?

If any one can answer they will help me very much, for I can scarcely keep a hen on the place, much less make anything by them.

Chesterfield county, Va.

H. DENHURST.

GAPES.

To an enquirer in July I give my preventative and remedy for gapes. Mix a small quantity of red pepper, pulverized (or cayenne) with the dough,

say, four or five times during the time the chickens are small and most liable to the disease. A little experience will tell how long this will be necessary. This has always with me been a *certain preventative*.

One day I observed a little chicken gaping. I procured a pinch of black pepper, inserted it in his mouth, dropped him and off he went rejoicing. I observed the brood more closely and nearly all had gapes. Same treatment cured all completely and at once. This is my *remedy*. S. E. MORGAN.

Wood county, W. Va.

LICE.

I notice several persons are enquiring through your columns for a preventative of vermin in poultry houses. One that we have tried and found very effective is common coal tar. Simply paint the nests and roosts with it and they disappear as if by magic.

It is also good to dab a little on the hogs' backs with a paddle, but be careful not to rub it in too much or it will cause the skin to peel.

Louisa county, Va.

J. E. THOMASSON.

THE TOMATO AN INSECT REPELLER.

"I planted a peach orchard," writes M. Siroy, of the Society of Horticulture, "and the trees grew strongly. They had just commenced to bud when invaded by the curculio (pulyon), which insects were followed, as frequently happens, by ants. Having cut some tomatoes, the idea occurred to me that by placing some of the leaves around the trunks and branches of the peach trees I might preserve them from the rays of the sun, which are very powerful. My surprise was great upon the following day to find the trees entirely free from their enemies, not one remaining, except her and there, where a curled leaf prevented the tomato from exercising its influence. These leaves I carefully unrolled, placing upon them fresh ones from the tomato vine, with the result of banishing the last insect and enabling the trees to grow with luxuriance. Wishing to carry my experiment still further, I steeped some leaves of the tomato in water and sprinkled this infusion on other plants, roses and oranges. In two days these were also free from the innumerable insects which covered them, and I feel sure that had I used the same means with my melon patch I should have met with the same result. I, therefore, deem it a duty I owe to the Society of Horticulture to make known this singular and useful property of the tomato leaves."

The Horse.

NOTES.

The Virginia Circuit of horse shows has assumed much greater importance than its originators even looked for, and the present season promises to be the most successful in its history. The horse show is an educator and certainly merits the generous patronage so freely accorded it by the best people of the communities in which its exhibitions are held. It opens and provides markets for our highest class horses and has been of untold benefit in encouraging and promoting the breeding interest. The season began with a fine show at Leesburg in June and was followed by another of equal merit at Upperville during the same month. Then those at Culpeper, Manassas and Orange came off in July. During the present month the Front Royal show is booked for the 5th and 6th; Berryville the 12th and 13th; Harrisonburg the 19th and 20th, and Warrenton the 26th and 27th. The dates fixed for Charlottesville are September 2d and 3d, which marks the last of the open-air affairs, and then the scene shifts to Lynchburg, where active preparations are being made for a high-class show during the week of October 7th to 10th, to be held in the amphitheatre erected for the purpose. The Richmond Horse Show will come off during the week of October 12th to 17th, and will be the greatest affair of the kind ever seen in the South. It has also been decided to hold a show at Norfolk, to follow right after Richmond, and substantial men are backing the venture and will doubtless make it a success.



Recent foals at Belgravia Farm, Mount Jackson, Va., the property of James Cox, include a bay filly by Kelley, 2:27; dam Frances S. Dayton, 2:27 3-4, by Cadmus; second dam, Daisy Dayton, of Lake Erie, 2:13 1-2, etc., and a bay colt by Kelly, dam Cherie, by Axtelloid; second dam Lady Purdy, the sister to Charlie C., 2:13 1-4, by Sam Purdy. The colt is stoutly made and rather on the coarse order of its dam; but the filly has all of the exquisite quality and elegance of Kelly, son of Electioneer and famous thoroughbred Esther, dam of Expressive, 3, 2:12 1-2, that heads the Belgravia stud. Kelly has a record of 2:27, but in his work while being trained could show two minute flights of speed. Lucy Montrose, the bay mare 4, bred and owned at Belgravia, is in the stable of Tom Cannon at Baltimore, as is Helen Wilmer, the chestnut filly 2, both of whom are by Kelly. Lucy Montrose shows speed and is highly thought of, but for elegance of form, beauty and finish Helen Wilmer is not sur-

passed by a 2 year old in all Virginia. She is out of the great brood mare Erena, 2:19 3-4, dam of Allercyone, 2:17 1-4, etc., by Aleyone, 2:27, son of George Wilkes and Alma Mater.



Virginia horses made quite a clever impression at the recent Atlantic City Horse Show, especially those from the stables of Charles H. Hurkamp, of the Boscobel Farm, Fredericksburg, and Courtland H. Smith, Hampton Farm, Alexandria. The Boscobel horses were badly shaken up by the car being struck heavily just before shipment, and all of them were thrown down. Amaret, the crack high jumper, and Hornpipe, the sturdy roan heavy-weight hunter, both escaped with shaking up, but Field Marshal, Meadow Plume and Colonel Hawkins were not so fortunate, and sustained considerable injury. Hornpipe was first in the class for heavy-weight hunters and Amaret second in that for jumpers, open to all, his successful competitor for first being the noted Heatherbloom.



Lucy Sutherland, from the Hampton stable, was first in the classes for light-weight hunters, green, and in that for thoroughbred hunters. This good-looking bay daughter of St. Carolus and Expensive, by Spendthrift, was formerly a member of the brood mare band at Hampton, but since being taken up and schooled to jump she has developed into a performer of real class. Among the competitors in the field for thoroughbred hunters were the brown gelding Joker, owned by T. L. Evans, of Warrenton, and Colonel Hawkins, from the Boscobel stable. The two last named came second and third. In Class 38, open hunt clubs, for best three hunters from one hunt, ridden by members or subscribers of the respective hunts in the hunt uniform, the blue ribbon went to the Cameron Hunt Club, Alexandria, and the red to the Deep Run Hunt Club, of Richmond.



One of the most prominent and probably the best known of North Carolina breeding establishments is beautiful Alamance Farm with its thousands of fertile acres near the busy manufacturing town of Graham, and it is there that L. Banks Holt, a wealthy cotton factor, banker, man of affairs, breeder and owner of trotters and pacers makes his home and dispenses hospitality of the typical southern kind. John R. Gentry, 2:00 1-2, ex-pacing King, and one of the greatest and handsomest of trotting bred lateral gaited performers, was formerly a member of the Alamance stud, and some of his get are there

now, among them the beautiful brown stallion, Giles Mebane, who now heads the farm. He has a pacing record of 2:16 3-4, and is out of the great brood mare, Winnie D., dam of four in the list and others to follow. Gregorian, 2:29 3-4, the sire of Glencoe, 2:16 1-4, and other good horses, is the stud companion of Giles Mebane, while the brood mare band includes Winnie D. and Blondette, dam of Governor Holt, 2:15, and Eliza Ingram, 2:21 1-4.



In Peter Paul, Robert Bradley has a worthy successor to Robert Waddell, the noted son of Aloha that won the American Derby in 1901. Peter Paul is also by Aloha, and, like Robert Waddell, may be returned a winner of the American Derby, as he is entered in that event for 1903. This 2-year-old unsexed son of Aloha was bred at Mr. Bradley's Greenway Farm, near Wilcox Wharf, and has clearly shown himself to be one of the greatest youngsters out this season, as he retains his form and wins about two races each week on average. Peter Paul's dam, Eminence, the daughter of Imp. Kyrle Daly, is owned at Greenway, and was bred again last spring to Aloha. The latter is Mr. Bradley's principal stallion, and at 18 is vigorous and well preserved. Little chance has been given the brown son of Imp. St. Mungo to distinguish himself as a sire, but his get are coming to the front as race winners, nevertheless.



The annual catalogue and prize list of the Rockingham Horse and Colt Show Association has been issued, and premiums are offered for thoroughbreds, trotters, high stepping harness horses, park saddlers, hackneys and various other classes. The show will be held at Harrisonburg August 19th and 20th, and is one of the most important in the Virginia circuit, being right in the midst of a big breeding and grazing district. Mr. J. Samuel Harnsberger is the president of the Association, and Dr. John A. Myers has served as secretary for years past, while the board of directors is made up of these gentlemen along with other well known and prominent breeders and stock raisers in the "Valley of Virginia."



Mr. Henry L. Upshur, of the Elkington Farm, Eastville, Va., who is one of the best known owners and breeders of trotters and pacers on the Eastern Shore, writes us that his horses are all doing well. Salem, son of Iroquois and Fernwood, by Lancelwood, is the premier sire at Elkington, and some of his get are being worked for speed over the half mile track at the farm. Sam Patch, 2:23 1/4, the bay gelding by Salem, dam Pansy, by Bajardo, is in training, and will be raced again this season. He is in fine shape and will be likely to materially reduce his record. Hardy H., by Salem, has trotted to a re-

cord of 2:17 1/4 this season in a long drawn out race, and Sam Patch is considered equally as fast. Among others in the training stable at Elkington are Monnie J., bay mare, 4, by Salem; bay gelding, 4, by White Tip, dam by Lancelot, fast but erratic; and a couple of promising three-year-old colts, one owned by Albert Savage, Stewart's Wharf, Va., and the other by W. Gibb, Capeville, Va. The Savage colt was sired by Bursar, 2:17 1/4, the dead son of Stranger, dam, the dam of Stella, 2:24 1/4. He is a pure gaited trotter and promises speed and race horse quality of a high order.



One of the best looking yearlings around here is the bay colt by Eloroy, 2:14 3-4, dam Fern, 2:18 3-4, by Petoskey, owned by his breeder, W. H. Nelson. Eloroy, the son of Simmons, that sired this youngster, was a horse of more than ordinary finish, looks and speed, and highly regarded by the Nelsons, who sold him for export to Austria in 1902. Fern, the dam, is now owned by Luther Libby, who bred her this season to Great Stakes, 2:20, and she appears to be in foal to that good son of Billy Thornhill.



Dr. J. T. J. Battle, of Greensboro, N. C., has sold to George R. Richmond, who trains at the Deep Run Hunt Club track, this city, the bay pacing gelding Doug. Thomas, 2:16 3/4, by Blue Hal. This horse is much faster than his record indicates, as in the hands of T. M. Arrasmith he paced a trial in 2:10 1/4 last fall. The price was close to \$1,000, and to Richmond the big son of Blue Hal is worth the money.



Among the thoroughbred foals of 1903, the property of P. S. Hunter, Loretto, Va., dropped at Otterburn Stud, are a bay filly, by Judge Morrow, dam Ginka, by imp. Emperor, and a bay colt, by the same sire from Sneeze, by imp. Mortemer. Judge Morrow, the son of Vagabond, that heads Mr. Hunter's stud, was a crack race horse, and will most likely sire winners.

BROAD ROCK.



Dr. Kerr reports the following foals at Antrim Stud, Warrenton, Va.:

January 31st, Valorous, by imp. Stalwart-Minority, a bay or brown colt by Chorister.

February 10th, Onslea, by Fremont-Nellie Van, a bay colt by Chorister.

April 10th, Bona Dea, by imp. Eolus Sis O'Lee, a bay colt by Chorister.

May 18th, Merrie Antoinette, by Buchaman-Highlander mare, a bay colt by Chorister.

April 30th, Chestnut Mare, by Knight of Ellerslie-Pogeine, a bay colt by Chorister.

May 12th, Thirty, by St. Blaze-Habinera, a bay colt by Chorister.

Miscellaneous.

THE VIRGINIA CROP PEST LAW.

The Virginia Crop Pest Commissioners invite attention to the provisions of the act passed by the Legislature amending the law and providing funds for more efficient dealing with some of the serious pests like San Jose scale. The Commission has been reorganized, and has prepared a bulletin setting forth the terms of the law, and pointing out the lines of work thought to be most expedient. A copy of this bulletin can be obtained on application to Professor J. L. Phillips, the State Entomologist, Experiment Station, Blacksburg, Va.

VIRGINIA AT THE ST. LOUIS EXPOSITION.

The Commission appointed for collecting and arranging the exhibit of Virginia at the Exposition is actively engaged in securing exhibits, and asks that all who desire to see Virginia well represented will communicate with them as to anything worthy of being exhibited. An effort is being made to erect on the grounds at St. Louis a State building as a centre for the distribution of matter calculated to help in the advancement of the interests of the State. The Commission has no power to use any of the money appropriated by the State for this purpose. If, therefore, a building is to be erected it will have to be by public subscription. Any who may desire to help in this matter should send their contributions to the Commissioners, care of the State Department of Agriculture, Richmond, Va.

SALE OF PURE BRED SHORT HORNS.

Major W. W. Bentley, of Pulaski county, Va., and Major J. T. Cowan, of Montgomery county, Va., both well known and long time breeders of the finest strains of Short Horns, announce in this issue a sale of fine stock. Major Bentley will practically sell the whole of his herd, only reserving a few animals. The reputation he has sustained for a lifetime for breeding only the choicest strains and the finest grown cattle will be sustained by the animals he will offer. The draft from Major Cowan's well known herd will include some finely bred animals. We bespeak for these gentlemen a good attendance at the sale and hope to hear that good prices have been realized. Those who want Short Horns—and a better breed of beef and milk producing stock cannot be kept—

should make a note of the date of sale and be on hand. The sale will take place at Radford, on the Norfolk and Western Railroad, and will therefore be convenient for attendance.

HOGS AND STRYCHNINE.

Editor Southern Planter:

I see a communication from Burfort, S. C., from Senex, saying strychnine would not kill hogs. I was once bothered, as he says, that certain parts of Georgia were, with hog thieves. I had gathered my corn from the river bottoms, and was going to turn my hogs out to glean the fields. I had heard that feeding hogs strychnine would kill the thief, and not hurt the hogs. I put about a teaspoonful of strychnine in slop for thirty hogs. The first eleven that got a swallow or two died. Some of them did not take time to turn over. They were dead almost before you could say "scat," and I believe it would have killed the whole thirty if I had let them eat the slop. The hogs weighed from two to two hundred and fifty pounds. I never lost any more hogs by thieves or strychnine. Would like "Senex" to explain why strychnine killed my hogs. Let those who want to catch hog thieves by poisoning hogs be careful or they will get the hog first. I have used strychnine on a good many things, and have never had it fail on anything that had an eye or heart, even if it was born or hatched blind. I hope the letter of Senex will not catch any one as I was caught by relying on the old saying, "Poison the hog to catch the thief." I cannot see how any animal can get enough poison in its system by taking it to kill another animal or man without serious effects.

SUBSCRIBER.

Chester county, S. C.

CROPS AND STOCK IN PULASKI CO., VA.

Editor Southern Planter:

The season has improved things for us very much in the last month. But the crops still show the effects of the drouth in the early season. The cattle market is very unsatisfactory. Cattle in the county are fully up to the standard at this season of the year, notwithstanding the short feed crops of last year, only the price seems wanting. We have no

complaints, through the press or otherwise, against the beef trust, only the farmer suffers this time. The spring lambs have helped us some, as they have so far brought fairly good prices, and this county furnishes quite a large supply to the Northern markets. There was shipped to Jersey City on June 1st one carload of half Suffolk Down lambs, every one a black face, and the average weight was 99 pounds. They brought a quarter of a cent per pound over the top of the market. If any county in the State can beat that for the same date of shipment, we would like to hear from them. The Suffolk has so far proven to be an excellent cross on our native and high grade sheep. They are large and handsome, with very black faces and legs. The cross rarely ever fails to bear in a marked degree these characteristics. It is the most striking and attractive bred of sheep I have ever seen. I believe your excellent paper better adapted to the practical use of the Virginia farm than any other agricultural paper in the country. I wish it came every week instead of once a month.

D. M. CLOYD.

Pulaski Co., Va.

CALIFORNIA PRIVET.

In our last issue the types make our correspondent, Mr. Wallis, when writing on this subject, make a most annoying blunder in the botanical name of the plant. What he wrote was "*Ligustrum ovalifolium*," and not as printed. We corrected the proof, but the printer overlooked the correction. We apologize for the error.

Fertilizer for Raspberries and Strawberries.

I raise, for family use only, strawberries and raspberries. I do not like to fertilize with stable manure, because it introduces grass, clover and weeds. I have some chicken manure, but not enough. Can I profitably apply commercial fertilizers? If so, what should I use for each; how much and when should it be applied? Would it not be well to mulch the raspberries thickly with forest leaves?

Would it pay to sow crimson clover as late as October to plough under in the spring? C. W.

Potash is a most desirable fertilizer to use on all fruit crops, as it improves the quality and appearance of the fruit. You also need some phosphoric acid. The chicken manure will give you all the nitrogen you need. Apply 300 pounds of acid phosphate and 100 pounds of muriate of potash per acre

with the chicken manure. Although October is rather late to sow crimson clover, yet we have known good stands made sown in that month. Mulching will help both raspberries and strawberries.—ED.

Improving Poor Land.

I wish you would please answer a question for me and make any improvement you think best on my plan of raising corn on poor, gray land: First, plough land deep and harrow until thoroughly pulverized; streak off in rows eight feet apart and plant corn eighteen inches apart with 500 pounds potash and phosphoric acid per acre; cultivate with weeder and cultivator and at the last cultivation sow peas broadcast, using 150 pounds potash and phosphoric acid broadcast; then cut corn and sow in annual clover or annual clover and something else (how about rye?) using 200 pounds some fertilizer; cut for hay and pursue same method. Now, will my land improve under sulh a system carried out fully and continually cropped in those three plants, two of them being legumts? GEORGE TARRY.

Vance county, N. C.

If you will follow out the rotation you have described you will undoubtedly succeed in making the land produce good crops and become fertile. We would suggest that you make the fertilizer acid phosphate and potash rather than potash and phosphate. What you most need is phosphoric acid. We would apply two-thirds acid phosphate to one-third potash. If you would give a dressing of lime, say 25 to 50 bushels per acre, we believe you need not apply any potash or only a very light application, say 50 pounds of muriate of potash per acre. After two or three years you should be able to make your corn rows closer than five feet, say three feet six inches. We assume that you intend to plow down the peas at any rate for a year or two.—ED.

ROOT PRUNING OF TREES.

The Netherland Pomological Society records in its year book an experiment made in root pruning. The experimenter selected 1-, 2- and 3-year-old apple and pear trees. One half of each lot were transplanted in the usual manner, whilst the others had their roots so severely pruned that only a stick was left. The trees of the first lot started off most vigorously in the spring, but before the end of June the closely pruned trees were larger than the others, and this lead was maintained throughout the season. When the trees were dug up it was found that the closely pruned ones had developed a much better root system than the others.

THE
Southern Planter

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J. F. JACKSON,
Editor and General Manager.
B. MORGAN SHEPHERD,
BUSINESS MANAGER.

TERMS FOR ADVERTISING.
Rate card furnished on application.

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THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 50c. per annum; all foreign countries and the city of Richmond, 75c.

REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

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PUBLISHER'S NOTES.

TO ADVERTISERS.

All advertisements and matter pertaining to advertising *must* reach us by the 25th of each month. Please bear this in mind.

Trial Subscriptions.

August, in this section, is essentially a month of picnics, barbecues, camp-meetings, etc. It is something of a holiday for the farmer after his arduous work of spring planting and summer harvesting. We wish to ask our friends who attend these various gatherings not to forget the SOUTHERN PLANTER. Numbers of farmers in the South do not take the SOUTHERN PLANTER or any other agricultural journal, which fact accounts for us being behind the North and West in our farming operations. These are the farmers we want to get at. To induce such to subscribe, we will accept a 3 months' trial subscription for 10 cents. If any one feels that he hasn't gotten his money's worth, and a great deal more, just say so and we will refund the money at once. We know, however, from experience that a large majority of such subscribers renew their subscriptions after having read a copy or two. Mention this little offer to your friends, and we will return the favor at any time.

PERFECT BLISS.

William's table manners were notoriously bad—so bad that he was facetiously accused of spoiling the manners of a pet coon chained in the back yard. He gripped his fork as though afraid it was going to get away from him, and he used it like a hay fork. Reproaches and entreaties were in vain. His big sister's pleading, "Please, William, don't eat like a pig," made no impression upon him.

One day William and his bosom friend, a small neighbor, dined alone, and William was heard to say in a tone of great satisfaction as he planted both elbows on the table, "Say, Harry, there's nobody but us. Let's eat like hogs and enjoy ourselves."—Caroline Lockhart, in July Lippincott's.

Wood's Seeds

FOR FALL SOWING.

Farmers and Gardeners who desire the latest and fullest information about

Vegetable and Farm Seeds

should write for Wood's New Fall Catalogue. It tells all about the fall planting of Lettuce, Cabbage and other Vegetable crops which are proving so profitable to southern growers. Also about

Crimson Clover, Vetches, Grasses and Clovers, Seed Oats, Wheat, Rye, Barley, etc.

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J. M. McBRIDE, Ph. D., LL. D., President.

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Needs an education. Send for Catalogue of WOODLAWN SEMINARY & MUSICAL INSTITUTE, GORDONSVILLE, VA. Beautifully and healthfully situated at the foot of the Blue Ridge Mountains. Prepares for any College or Special School or for Teaching. Beautiful home; thorough instruction. All Grades, including English, Elocution, Music and Art. Expenses very low.

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W. Smith
President.

"Leading bus. col. south Potomac river."—Phila. Stenographer.

Mention the Southern Planter in writing.

BEWARE OF OINTMENTS FOR CATARRH THAT CONTAIN MERCURY,

As mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten-fold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, O., contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally and made in Toledo, Ohio, by F. J. Cheney & Co. Testimonials free.

Sold by Druggists. Price, 75c. per bottle.

Hall's Family Pills are the best.

WITH THE ADVERTISERS.

Slug Shot, for cabbage worms, is advertised by Benjamin Hammond, Fishkill, N. Y.

The German Kali Works renews its contract for another term, beginning with the card elsewhere in this issue. Antrim Stock Farm has an announcement in another column.

Celery plants are offered by Mr. E. A. Swineford, of Richmond, Va.

Mr. W. B. McGregor has Aberdeen-Angus cows and bulls for sale.

Ormsby Bros. are new advertisers in this issue. Fine Scotch Topped Shorthorns are their offering.

Look up the advertisement of W. T. Brown, the Pittsburgh real estate man.

Foxhall Farm, Norfolk, Va., has an advertisement in this issue.

Majors Cowan and Bentley advertise a public sale of shorthorns. Look up the advertisement for particulars.

Mr. A. E. McMurdo has some good wine barrels for sale.

The Havana Metal Wheel Company is a new advertiser in this issue.

Mr. James Boyle is advertising his steel stanchion and modern sanitary stalls.

Ware View Stock Farm has some choicely bred Berkshires at reasonable prices.

The Spangler Low Down Drill advertisement makes its appearance in this number.

H. R. Graham offers his entire flock of registered Shropshires.

D. M. Cloyd has some Suffolddowns for sale. Look into the merits of this breed.

The Chicago House Wrecking Company has three advertisements in this issue.

The Florence Wagon Works is with us with an advertisement again this fall. Their product has been on the market for 22 years and always gives satisfaction.

Polled-Durhams can be bought of J.



husker and shredder is a "Little Giant" when it comes to considering the amount of work it will do in a day. Every corn grower can well afford to own the McCormick "Little Giant" husker and shredder. The machine has capacity enough for several farms where two or more want to join together in the purchase. The stover from the McCormick is relished by the stock.

W. K. BACHE, General Agent for

McCormick Machines, Richmond, Va.



A Mill that Will

SAW LUMBER

WE MAKE SAW MILLS
that cut accurate lumber and plenty of it. 8 to 30 horse power. Capacity 4,000 to 20,000 feet of lumber per day.
Prices from \$160 to \$700

Reasonable in price, economical to maintain, greatest capacity. Every Mill is a Money Maker. Write for large free Catalog No. S 30.

AMERICAN SEEDING MACHINE CO., KENTUCKY DIVISION, Successors to Brennan & Co., LOUISVILLE, KY.

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KILLED BY DUSTING WITH Hammond's Slug Shot.
Sold by the Seed Dealer For Pamphlet on Bugs and Blights address. **B. HAMMOND,** Fishkill-on-Hudson, - N. Y.



This Is Another

Superior device. It shows the Superior Disc and Shield, Chilled Spindle and Chilled Tapered Boxing. The Disc Shield and Removable Chilled Boxing never wear out. Over 800,000 now in use. Not one case of "wear out." Just think of it! We agree to renew them at a cost of only one dime.

SUPERIOR

Seeding Machines are used by the most prosperous farmers in all sections of the world. They do the work of seeding just right—never clog in trash. They successfully sow and cover the seed in any field where a disc harrow will run. A man or a boy can seed one-fourth to one-half more land in a day than with any other drill. Superior Seeding Machines are made solid and strong of the best materials. They are light draft. No neck weight. Easy on man and team. Our new Catalogue No. 14 is free. Write for it today.

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GRAIN and FERTILIZER DRILL

The YORK FORCE FEED DRILL combines lightness with strength. Most complete drill made. No complex gearing to get out of order. Boxes are close to ground. Fully Guaranteed

Easily regulates quantity of seed or fertilizer, and sows with regularity. Weight, Only 700 lbs. Agents Wanted. Write for Catalogue. **THE HENCH & DRONGOLD CO.,** Mfrs., York, Pa.



Land Above Ditch?

Its only hope is effective and economical pumping. You can raise water where you want it with the

RIFE Hydraulic ENGINES.

Will fill a storage tank any height above the source of supply, when water may be drawn through buildings, dairy houses, stable, yards, etc., by gravity process. It runs itself. Will force up pure water of a spring with muddy water without mixing. Write us your needs and we'll send plans and estimates of cost. **RIFE ENGINE CO., 126 Liberty St., New York.**



L. Humbert, Charlottesville, Va. Lee's Prepared Agricultural Lime is offered our readers, as usual, this season. Look up the advertisement and send for testimonials and circulars.

Byrd Brothers are offering good, growthy Poland-China pigs at pork prices.

Arrowhead Stock Farm is offering some royally-bred Poland Chinas; also registered Shropshires.

Note the change in the advertisement of the Hayfields Stock Farm.

Sunny Home Aberdeen Angus cattle are in fine shape, so Mr. A. L. French, the proprietor, tells us.

International Stock Food Company has a large advertisement on another page. Look it up and send for their free \$3,000 stock book.

HOW TO HANDLE LIVE DUCK FEATHERS.

The feathers of Pekin ducks are of especial value from the fact of their being white. What are termed "live feathers" are always in demand, and this means feathers picked from live geese and ducks. As feather producers alone, Pekin ducks may be made a profitable industry on every farm. They will produce some three or four crops of feathers during the months that are sufficiently warm to pick them, and a dozen ducks will soon furnish one with a beautiful new pair of feather pillows.

When the ducks begin dropping their feathers, or molting them, as the process is called, they are then ripe, and fit for picking, and the feathers can be pulled out without having blood left in the end of the shaft. Better to pick, and thus save the feathers, than to have the farm covered with them. Ducks well washed in cold or warm water before picking then put on clean straw to dry, give beautifully white, clean feathers.

When the picking is done, put the feathers into several sacks of very thin material and hang them out of doors in the air all day and every day. I have learned by experience to put the down into one sack, and the feathers into another, when picking. To take from new feathers the disagreeable odor that stays with them so long usually, and which comes from the meaty end of new picked feathers, they can be plunged into very hot water, left there to scald for a little time, then rinsed and hung in the hot sun to dry. Having taken the precaution to keep down and feathers separate, the feathers will dry in fluffy shape and make desirable pillows.

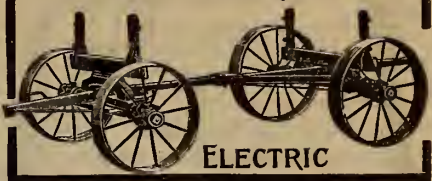
In one lot of feathers in which we put a heavy picking of down, and then scalded, we found they would not return to their original state of lightness, but were inclined to be pasted together with the down, and remain somewhat rolled.

After feathers have been scalded and dried, the down can be mixed with

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The man who has had experience in running a wagon knows that it is the wheels that determine the life of the wagon itself. Our

ELECTRIC STEEL WHEELS have given a new lease of life to thousands of old wagons. They can be had in any desired height, and any width of tire up to 3 inches. With a set of these wheels you can in a few minutes have either a high or a low down wagon. The Electric Mandy Wagon is made by skilled workmen, of best selected material—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. Here is the wagon that will save money for you, as it lasts almost forever. Our catalog describing the uses of these wheels and wagons sent free. Write for it. **ELECTRIC WHEEL CO., BOX 146 QUINCY, ILLINOIS.**



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WE'LL PAY THE FREIGHT and send 4 Buggy Wheels, Steel Tire on, - \$7.25 With Rubber Tires, \$15.00. 1 mg. wheels 3/4 to 4 1/2 tread. Top Buggies, \$28.75; Harness, \$3.60. Write for catalogue. Learn how to buy vehicles and parts direct Wagon Umbrella FREE. **W. V. BOOB, Cincinnati, O.**



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Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

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Brings the biggest return
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Sows all grains—all grass seeds—all
fertilizers, whether damp, lumpy or
dry. It's the all-round drill for all
farmers. Made with heavy cast-iron. Write
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machinery and implements.

A. B. FARQUHAR CO., Ltd., York, Pa.

them if desired, or kept to make down cushions and pillows. If the feathers are not scalded, the disagreeable odor of new feathers remains a long time, yet it disappears if the sacks of feathers are kept out of doors or in an open, roomy chamber or storeroom.

CURIOUS GRAFTING.

Professor Green, of the Minnesota State School of Agriculture, has, by a process of grafting, grown fully developed tomatoes on a potato vine. He cut off the young shoots of a potato vine, making a V-shaped slit in the top, into which he inserted a freshly clipped young tomato plant, and bound the joint with straw and supported it by long rods. Nature did the rest; the tomato drew its substance from the earth through the roots of the potato, and in return furnished what was required in the way of the action of light and air upon its own leaves to its adopted roots. Professor Green's sole object was to show what could be done in the way of grafting widely separated plants. The work is a proof of skill in the graftsman, but it shows the extent to which nature will act to repair a wound. It shows also that the action of the stalks is not dependent wholly upon the action within its own particular variety. The plant is now nearly five months old, and several tomatoes have ripened upon it, and fairly developed potatoes have grown in the ground. There are no leaves suggestive of the potato on the plant, which is three feet high.



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are in a class by themselves. All sizes to meet all requirements. Smallest hand lever to largest self-feed cylinder cutters, shredders and carriers for fodder, ensilage, etc. Widely popular through many years service. Also Wind Mills, Corn Shellers, Wood Saws, etc. Catalogue 110 sent free.

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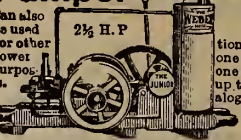
He knows whether it's hard work to run a hay press. If he's worked on a



RED RIPPER Hay Press

he will tell you that it is the lightest running press in the market. A lever gives the compression, and the power increases with the resistance, but the horse doesn't know that. He knows that it is just as easy at the end of the stroke as it is at the beginning. The Red Ripper has an easy capacity 20 bales per hour. It is a low priced, in fact, the lowest priced hay press in the market, and so strong and simple it never gets out of repair. It can be loaded on a farm wagon. Our 24 page Catalogue No. 433 tells you more and contains many testimonials we have received from Red Ripper purchasers. Distributing points, Baltimore, Memphis, Cincinnati. Address **SIKES MFG. CO., Helena, Georgia.**

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Write for Free Catalogue No. 166 on material bought from Sheriffs' and Receivers' Sales. **CHICAGO HOUSE WRECKING CO., W. 35th and Iron Sts., Chicago.**

LEGERDEMAIN.

A man in a certain New England town was noted for telling extravagant stories. One evening while loitering in the country store the conversation turned upon feats in gunning. The man listened attentively and in silence for awhile, then suddenly he exclaimed excitedly: "Wall, boys, I can tell you a queer thing that happened to me the other day. I went to Rye Beach shooting when I see a nice, large flock of yellow-legs. 'Aha,' says I to myself, 'now for a shot at them.' So I crept up near by, raised my gun to my shoulder and fired. But I aimed jest a bit too low, and they riz up and flew off. As I walked along the beach I found two bushels of their yellow legs that I had shot off."—Lippincott's for June.

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Mention the *Southern Planter* when corresponding with advertisers.


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STOP THAT RATTLING, TIGHTEN YOUR OWN BUGGY TIRES. No heating; does not mar the paint; any one can operate. Machine complete with 100 washers sent on receipt of \$2.00. Guaranteed to do the work. Your money back if not as represented. **RAPID TIRE TIGHTENER CO., Station F., Toledo, Ohio.**

FREE from anxiety over wash day are those who use a **DILLEY QUEEN WASHER.** We manufacture three styles of washers; to introduce them we will give you the advantage of our factory prices for a short time. Write for catalogue and prices. Our Up-to-Date at \$2.50.



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Paw Paw, W. Va.

Answering in detail, accompanying, where possible with specimens and explanatory notes; life-history a specialty; charges low. Not a bureau of information. Write at once and worry me.

A SOUND REASON.

At a rural watering place the guests were sitting on the front piazza, which overlooked the street.

A rustic, who was greatly under the influence of liquor, found his way up there and became offensively "agreeable." Being admonished to desist, from his attentions many times, he persisted, and at last approached one of the ladies and commenced to annoy her with crude attempts at smartness.

A gentleman who had been watching him closely, but saying nothing, now swiftly approached him and tossed him over into the wet sand below.

He got up, pulled a much-soiled handkerchief from his pocket, wiped the sand from his eyes and mouth, and then, looking up as he swayed back and forth, addressed the man who did the deed:

"Yes, ——— you! I suppose you think you're smart, but I don't. I expect you think I don't know what you done that fer; but I'll let you know that I do. Blank your buttons! the reason why you throwed me over them banisters was that you don't want me up there ——— you!"—July Lippincott's.

AN UNFORTUNATE INVESTMENT.

A Southern clergyman had married a pair of negroes. After the ceremony the groom asked, "How much yo' chahge fo' dis?"

"Well," said the minister, "I usually leave that to the groom. Sometimes I am paid five dollars, sometimes ten, sometimes less."

"Dat's a lot ob money, pahson. Tell yo' what Ah'll do. Ah'll gib yo' two dollahs, an' den ef I fin' I ain't got cheated, I'll gib yo' mo' in a monf."

A month later the groom returned. "Ah's yere, lak Ah promised, pahson."

"Yes," said the minister, expectantly. "Ah tol' yo' dat ef it was all right, Ah'd gib yo' mo' money, didn't Ah?"

"You did."

"Well, pahson, as dis yere am a sort of speculation, Ah reckon yo' owe me about a dollah an' eighty-five cents, an' Ah come ter get it."—Philadelphia Telegraph.

A well-known judge on a Virginia circuit was reminded very forcibly, says Harper's Magazine, of his increasing baldness.

One of his rural friends looked at him and drawled, "It won't be so very long, jedge, 'fo' you'll hev to tie a string round your head to tell how fer up to wash yer face."

A cople of pretty girls at the church fair last night tackled Alec. Smart to take a 10-cent chance on a piano. He flashed a \$20 note on them, thinking they wouldn't have any change.

But they did have it, eh?
No, they told him they never gave any change.

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These books are compiled from the publications of the various Agricultural Experiment Stations, and are of great value to all practical farmers.

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These oats were sown in the fall, are of a superior quality and EXTRA HEAVY. Grown in Albemarle county, in the Piedmont section of Virginia, where the best seed oats obtainable are produced. Address

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It also prevents Curl Leaf. Endorsed by entomologists. This soap is a fertilizer as well as insecticide. 50 lb. kegs, \$2.50; 100 lb. kegs, \$4.50. Half barrels, 270 lbs., at 3/4c, per lb.; barrels, 425 lbs., at 3/4c. Large quantities, special rates. Send for circular.

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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.

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In the past it was considered that baling hay was only profitable where the crop was large, and with the intention of shipping. It has come to be a recognized fact, however, that there is economy, and consequent profit in baling hay, whether the crop is to be shipped or used for feeding purposes. For shipment baling is an absolute necessity. The economical points of having the crop baled for feeding or storage purposes are readily admitted—viz., ease in handling; no loss from exposure or transporting; saving of space; destruction by fire almost an impossibility.

According to the statistics of the United States Department of Agriculture, the hay crop is the most valuable crop raised in this country. Under these circumstances, modern methods should be employed in handling it. Do not wait for your neighbor to get a press, get one yourself.

The Kansas City Hay Press Co., of Kansas City, Mo., have been for twenty years in the manufacture of hay baling machinery. Their line is very extensive, presses being offered for hand, horse or steam power. From these numerous styles the purchaser has no difficulty in selecting a machine to suit his needs. Every press they make is absolutely guaranteed, and each in its class is unexcelled by anything on the market. It will pay the reader to send for their catalogue.

This company also make a line of Standard Scales, of guaranteed accuracy and durability.

Their gasoline engine made in different sizes is adapted to all farm purposes, and has become very popular in the last few years owing to its economical and durable features. Write them for prices, terms and further information. Refer to this paper when making inquiries.

AN ECONOMICAL MOTHER.

Small Katherine, who had been forbidden to touch the ink bottle, had accidentally spilled its contents not only all over her mother's desk, but on the rug, several chairs, and her own apron. Her mother, on discovering the state of affairs, had expressed more surprise than pleasure. When the father of the family returned at night his little daughter met him at the door and asked—

"Papa, how much does a bottle of ink cost?"

"Oh, about five cents."

"Five cents!" exclaimed the aggrieved youngster in a tone of deep disgust. "And to think that mamma would make all that fuss about one little bottle of ink."—July Lippincott's.

"The new railroad's comin' our way."
"Yes, an' soon as we kin git damages out of it we're a-goin' to grade the cemetery an' plant the town hall."

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WANTED

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Contains 265 acres; 215 under cultivation; 50 acres original oak and hickory. Fronts on the pike running from Winchester to Alexandria; five miles from railroad; one-half mile from proposed electric railroad. Excellent six-room dwelling house, with broad halls, standing in a large, nicely-shaded blue-grass lawn; all necessary outbuildings; land chocolate clay, with stiff clay subsoil; all level, but rolling enough to drain well; fine for wheat and grass; well watered. Owner contemplates making improvements. But if sold before, price \$25 per acre, on easy terms.

No. 4.

Contains 100 acres, all under cultivation, and in good condition. Good frame dwelling and all necessary outbuildings in good condition. Situated on the pike, with market wagons passing every day, paying Washington city prices for produce. Splendidly situated for fruit, poultry, dairy and trucking. Price now, \$2,000, on easy terms.

No. 10.

This farm contains 100 acres—40 acres in white oak, chestnut and pine; 60 acres in a high state of cultivation. In lots of from 8 to 12 acres in a field; well fenced. Especially adapted to fruit and wheat and clover. Has a nice 8-room house, two porches, new barn, double granary, wagon drive and cow sheds. A good 4-room tenant house. Situated 2½ miles from station on main line of Southern railroad; 5 miles from county seat of Fairfax county. Price, \$20 per acre.

No. 11.

Contains 315 acres in high state of improvement. Large frame dwelling, 10 rooms, 2 large cattle barns, and all necessary farm buildings in good repair. Land watered by spring branches. Situated in aristocratic neighborhood. Convenient to depot and to Washington market. Price, \$50 per acre.

No. 12.

A desirable farm of 96 acres, all under cultivation. Situated in upper Fairfax county, Va., 22 miles from Washington, D. C., by railroad; 6 miles from station on Blumont Division of the Southern railroad; fronting on a Macadamized pike leading into Washington. A substantial dwelling house with five rooms; stable and granary. A large orchard of apples and peaches in full bearing. Land all in good state of improvement and is productive; fine for wheat and grass. One mile from village with post-office, stores, churches, canning factory and mill. Water by spring branch, well and cistern.

Market wagons pass this home every

day, paying cash for all country produce. Price of farm \$1,800, on easy terms.

No. 13.

An excellent little farm in lower Loudoun county, Va. Contains 117 acres; 90 under cultivation, balance in hardwood timber. Land is chocolate clay and loam with a stiff clay subsoil. Adapted to grain and grass. Has a new 9-room dwelling, with a fine cold well at the back door; good barn, 35x40; large wagon and machine sheds and granary. Situated 4 miles from railroad station, 20 miles from Washington, D. C. About 100 apple and peach trees in bearing. Land is gently rolling and well drained. Price \$27.50 per acre, on easy terms.

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Fertilizer is a very important item to every farmer. In buying his fertilizer he should know that he is getting an article that is not only going to stimulate and increase the yield for a short time, but an article that will permanently enrich the soil and keep up the fertility of the farm, and to accomplish this bone, tankage and blood should be extensively used in the manufacture of high grade fertilizers, because the nitrogen and phosphoric acid in these ingredients are not leached out of the soil by heavy rains, yet are in the best and most available form of plant food. The fertilizer should be made from well cured stock, which has been carried long enough to insure the material going through the drill as easily as the wheat.

The question of chemical proportions must be thoroughly considered in the manufacture of fertilizers, and a fully equipped chemical laboratory is an absolute necessity. The analyses of the different grades of tankage, bone, blood, potash, nitrate of soda, etc., vary considerably. To produce a high grade, even product requires a number of careful analyses by expert chemists.

To the farmer, especially in the fall, the question of prompt delivery is all important—he does not want to wait for his fertilizer—his needs then are imperative. The shipping season for fertilizer is so short—from the first of August to the later part of September—that large warehouses and perfect shipping facilities are necessary to prompt shipments. Positive assurance of prompt shipments can only be given by factories well equipped and of sufficient capacity to handle large quantities on short notice.

The advertisement of the Armour Fertilizer Works, in another column of this paper, calls attention to some of the foregoing points. The name of Armour has always been synonymous with the production of reliable goods; their equipment is unsurpassed, and their success indicates the character of their business dealings in the past.

Horse Owners! Use

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Caustic Balsam



A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle 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. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



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Guaranteed

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for Constipation, Dyspepsia, Malaria and Chills and Fevers, and a general tonic tablet.

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for the treatment of THE LIQUOR, OPIUM, MORPHINE and other Drug Addictions. The Tobacco Habit, Nerve Exhaustion

Little Chicks

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NO HUMBUG. Three

Swine V. Stock Marker and Calf Dehorner. Stops pain from rooting. Makes 83 different ear marks. Extracts Horns. Price \$1.00. Send \$1 for trial. If it suits, send balance. Pat'd May 6, 1902. Hog and Calf Holder only 75c. FARMER BRIGHTON, FAIRFIELD, IOWA.



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

ELMWOOD NURSERIES.

ASPARAGUS

100,000 2-yr. old Asparagus roots, 5 varieties. A special rate of \$3.50 per 1000 for 2 mos. for BARR'S, PALMETTO, CONOVER.

APPLES

A large general assortment, including WINESAPS and YORK IMPERIALS.

Splendid Assortment of Ornamental, Shade and Fruit Trees.

EGGS from B. P. Rocks. Light Brahmas, Brown Leghorns at \$1.00 per 13.

WRITE FOR OUR CATALOGUE.

J. B. WATKINS & BRO., Hallsboro, Va

FREE SAMPLE

OF "THE STORY OF MY LIFE AND WORK," By Booker T. Washington.



Send us your name and address. We want you to have a copy of this autobiography of the greatest living Negro for the purpose of introducing it in your community. It is a remarkable seller, big profit; agents are making from \$4 to \$10 per day. Will you introduce it by selling or getting us an agent? If so, send at once for a sample.

J. L. NICHOLS & CO., Atlanta, Ga.

Selling Price \$1.00. 915 Anstell Building.

SPECIAL SALE

Pen, very fine Banded Plymouth Rock chickens, as follows:

8 3/4 full stock 1 year old hens, my own raising; 1 thorough-bred hen from S. B. Johnson yards; 1 thorough-bred cockerel, my own raising. These are very fine birds, beautifully marked. They are well worth \$15.00, but to sell quickly will take \$12.00. This is a rare opportunity.

PIEDMONT POULTRY PLACE,

Miss E. Callie Giles, Prop. Whittle's Depot, Va.

32 Varieties Best Poultry

Reduced price on eggs bal. of season. Get my fine catalog, is free for stamp. Many breeding birds to offer, I can please you

in either old or young stock.

JNO. E. HEATWOLE, Harrisonburg, Va.

Mention the Southern Planter when corresponding with advertisers.

SHREDDED FODDER.

About one-half the feed value of the corn crop is in the stalks, and whenever this fact is thoroughly understood the corn grower considers it just as important to shred the fodder as to husk the ears. If the stalks are allowed to stand in the field until after the corn is husked, the fodder has little or no value as feed stuff, and this explains much of the misinformation that is still extant relative to shredded fodder. Neither timothy nor clover would make good feed if allowed to stand too long before cutting. If, however, the corn is cut at the right time, the fodder when shredded makes excellent feed, which analysis shows to be fully as nutritious as timothy hay. The McCormick Husker and Shredder enables the farmer to husk and shred his corn at one operation, thus saving time as well as all of the corn, and practically doubling the value of the crop.

The advertisement of the Eli Hay Presses, manufactured by the Collins Plow Co., Quincy, Ill., is running in our columns. Our readers cannot help but be familiar with these famous presses. As made to-day they are the result of many years' experience in hay press manufacture. A feature of the No. 1 continuous travel two-horse press, which perhaps has the widest use of any, is the immense pressure applied to the hay for the power used, the manufacturer stating it as 65 to 1 or concretely, a horse draft of 500 pounds exerts a pressure of upwards of over 30,000 pounds. This explains the solid compact bales for which this press is noted. This, with their uniform shapeliness, gives the Eli product a preference in the market, receiving also the favor of shippers, who are able to get the maximum amount in the car. The Elis are strong and durable machines, have large feed openings and do rapid work. The advertisement should be consulted by every prospective buyer.

DANVILLE MILITARY INSTITUTE.

On page 2 of the cover of this issue will be found the advertisement of this well-known school. We invite the attention of every father to this card, and ask that they send for the year book of this institute. In addition to being one of the handsomest catalogues we have ever seen, it contains a full and thorough description of the plan and scope of the institute, explaining fully everything necessary for a parent to know before sending his boy to college. Colonel Horace Campbell, A. M., Ph. D., will take pleasure in giving his personal attention to all inquirers.

How did you come to get the medal? Were you first in the class?

Tommy: Naw; I licked de boy what was.

BROWN LEGHORNS.

Young stock for sale in

Fall. Prices reasonable.

White Plymouth Rocks.

R. W. HAW, Jr., Centralia, Va.

PIT GAMES:

Black Devils and Red Horses.

These cocks won 90 per cent of battles fought in 1901 and 1902 and have never lost a battle when gameness and cutting qualities could win. Choice lot of young and old stock for sale.

THOS. W. JARMAN, Vancey Mills, Va.

WANTED!

ALL KINDS OF

LIVE WILD BIRDS AND ANIMALS

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Etc.

CECIL FRENCH,

718 Twelfth St. N. W., Washington, D. C.

FOR SALE.

Large English Berkshire Hogs, Barred Plymouth Rock Chickens

BEN. BOLT, 60747, 430 lbs. as a yearling at head of herd. EGGS IN SEASON.

JOHN P. FOSTER, Noecreek, Ohio Co., Ky.

... DUROC JERSEY ROOTERS ...

THE KIND YOU SHOULD HAVE.

Fancier's Stock :: Farmer's Prices

Spring pigs all sold, now booking orders for Fall pigs; you'd better get in line.

Finest strain B. P. Rocks in Virginia!

THE CEDARS W. G. OWENS, P. and S. FARM, Midlothian, Va.

READY FOR IMMEDIATE DELIVERY:

A limited number of big bone POLAND-CHINA pigs. Good, growthy, thrifty stock, 8 to 10 weeks old at pork prices to make room for young stock.

W. P. ROCKS Cheap.

BYRD BROS., R. F. D. 3,

Salisbury, N. C.

WANTED

If you have any GOOD ANGORA GOATS to sell, give lowest cash price on a lot from twenty-five to fifty does—also on same number of does with kids at side. Address, FOXHALL FARM, Norfolk, Va.

... FOR SALE ...

Six Beagle Pups pure bred and beautifully marked.

C. T. SMITH, Croxton, Va.

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. MAPLEMONT STOCK FARM, Albany, Vermont.

Market Toppers for Sale, Low.

One thoroughbred Angus cow, unregistered, coming 3 yrs., with heifer calf at foot
 Four three-fourths Angus heifers, two coming 3 yrs., two coming 4 yrs., bred to reg. Angus bull.
 Four seven-eighths Angus heifers, coming 2 yrs., bred to reg. Angus bull.
 Three seven-eighths Angus heifers, coming 1 yr.
 Four one-half Angus heifers, coming 1 yr.
 Several fine reg. Angus bull calves from 3 to 7 mos. old at a bargain
 2 nice grade Dorset ram lambs at a bargain.
 One 12 mos. old reg. Angus heifer.
 All of the above cattle are black, and as well polled as a thoroughbred Angus. Address
W. M. WATKINS & SONS,
 Randolph, Va.
 Charlotte county.

ANGUS BULL CALVES

Sired by the

Champion Bull BARON IDA.

These calves are choice individuals.

ENGLISH SETTER PUPS.

Sire and dam prize winners.

WARREN RICE, Winchester, Va.**FOR SALE.****My ABERDEEN-ANGUS Herd Bull,**

Hero of Booker Hill, No 31,462.

He is an extra good breeder.

J. TABB JANNEY, Van Clevesville, W. Va.

... FOR SALE ...

HOLSTEIN BULL

Pure bred, 2 years old, fine order, perfectly gentle, and SURE reasons for selling is kin to my stock; also offer a pure bred calf by above Bull. **JOS. HARDIE, Brown Summit, N. C.**

Swift Creek Stock and Dairy Farm

Has for sale a large number of nice young registered 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 10 to 12 months old, \$25; Heifers, same age, \$35. **POLAND CHINA PIGS,** \$5 each. Send check and get what you want.

T. P. BRASWELL, Prop., Battleboro, N. C.**FOR SALE.**

10 JERSEY COWS; 1 SHARPLES SEPARATOR
 10 cans and jackets for same, 1 ICE BOX.

Am changing my business, so will sell the above at very reasonable price. address

C. N. BASS, Rice Depot, Va.**YOU WILL FIND THIS INTERESTING.**

By a resolution of the Virginia Commission of "the Louisiana Purchase Exposition," the undersigned have been designated to superintend the collection of minerals and mineral products for exposition at St. Louis, and to prepare a description of the mineral wealth of Virginia.

We, therefore, request all owners of mines or mineral lands, and all persons interested in the mineral resources of Virginia, to aid us in making this exhibit a creditable one to our State, their district and themselves.

To do this, send, without delay, a statement of what minerals you have and propose to exhibit; what developments have been made on these—that is, whether or not they have been opened up and are being worked, and if so, to what extent. If the material has been analyzed, send copy of the analysis, with date and name of chemist.

On receipt of this information, we will at once send full information how to select a specimen for exhibition, with directions for shipping. We desire to call special attention to building stones, and in case a good building stone is known to exist, and has been partially developed, which is not now being worked (quarried) elsewhere in this State, we will, on receipt of a sample, sent by mail or express prepaid, examine the same, and if we find it of sufficient value, send an expert to assist in collecting a specimen and attend to its being properly cut and finished for exhibition.

We are also endeavoring to have a creditable exhibit of the clays of Virginia, and desire to call the attention of owners to clay lands to the advantage presented by this exposition to draw attention to their valuable deposits.

Owners of mineral springs are requested to notify us if they desire to make an exhibit. The commission is endeavoring to make this part of the exhibit as complete as possible. The exhibit should consist of bottled waters, with analysis, date and name of chemist, photographs of surroundings of springs, hotels, etc.

All communications should be addressed to us at 17 South Twelfth street, Richmond, Va.

FROEHLING & ROBERTSON.**CAMPBELL FANNING MILL.**

The M. Campbell Fanning Mill Company has an advertisement on another page in this issue. Look it up and write to them for their most liberal terms for this machine. They will take pleasure in forwarding catalogues or any other information desired.

What is better than presence of mind in a railroad accident? Absence of body.

**Kentucky
HEREFORDS**

Headed by the famous
ACROBAT

No. 68460 and the celebrated

IMPORTED BRITISHER

No. 145096 Champion Bull over all breeds in England and Grand Sweepstakes Champion at Chicago 1902 Live Stock Exposition.

We can furnish buyers with anything they wish from the FANCIEST THAT CAN BE BRED to the cheaper class usually desired by the beginner. Write us before buying. Glad to answer inquiries.

Giltner Bros., Eminence, Ky.**Poland-China and****amworth Pigs for Sale—**

eligible to registration; also

Hampshire Down Sheep

and grade Hereford cattle, ½ or ¾ bred. Calves, yearlings and 2 yr. old.

J. C. GRAVES, Barboursville, Orange Co., Va.**HAYFIELDS STOCK FARM HAS
FOR SALE**

Seven Registered HEREFORD BULLS 8 months old to 2½ years. Two Registered HEREFORD HEIFERS 8 months old and 1 year. Six OXFORDDOWN BUCK LAMBS.

WM. D. MERRYMAN,**Cockeysville, Md.****DORSETS and HEREFORDS.**

I am now offering my superior herd bull ROY MAY, 80183; and some fine male calves. I am also booking orders for Dorset rams and ram lambs.

H. ARMSTRONG, LANTZ MILLS, VA.**V. P. I.
Farm Bulletin**

Our Jersey Herd Bull for sale—PEDRO'S VIRGINIUS, 45919, grandson of Pedro, 3187, and of Marjoram Second, 12805, both of World's Fair fame. The Bull offered has been used in our herd for several years, and is sold to prevent in-breeding. Price low, quality considered.

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

ST. OMER HERD

Offers young bulls fit for service, out of tested dams with good yearly records. Strong in Exile of St. L., King of St. L. and Stoke Pogis of Prospect. Reasonable prices.

JOS. T. HOOPES, Bynum, Md.

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

WARE VIEW FARM

GLOUCESTER, VA.

== OFFERS FOR SALE ==

3 large Berkshire Boars :

BEAU OF BILTMORE,

COLUMBIANA'S MASON, and

BOB LOOMIS, JR.

Will be priced low, also about 100 head of extra fine Boar and Sow pigs by the above Boars and out of the best Sows. Entitled to registry Price, \$12 each, or 3 for \$30, Send stamp for reply.

R. S. CAMERON & SON, Props.

BERKSHIRES

ANNEFIELD HERD
Represents the

Finest Blood Lines

in England or America.

Stock for sale at all times.

Correspondence Solicited.
Inspection Invited.

EDW. G. BUTLER, Annefield Farms,
Briggs, Clarke Co., Va.

CHOICE YOUNG

BERKSHIRES

of Both Sexes, for Sale.

By Highclere Topper of Biltmore II, out of Imported Harlene.

Miniborya Farm, Box 901, Richmond, Va

Registered Berkshires

Duke of Mansfield (68561) 2½ years, \$15.00.
Mansfield Cricket (68709) 2 years to Farrow September, 1903, \$20.00.

2 Gilt 4 Months, \$8.00 each.

Write at once.

W. ELLIOT HAMMOND,
Goochland C. H., Va.

Hawksley Stock Farm

has some extra nice Berkshire Pigs for sale. Also one handsome young boar, seven months old. All entitled to be registered.

J. T. OLIVER,
Allens Level, Va.

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

MAGAZINES.

The midsummer holiday Century is characterized by articles on unknown regions, by a varied personal interest and by an appeal to artistic taste, both in color work and in black and white.

The most out-of-the-way articles are "New Light on Lhasa, the Forbidden City," with unpublished photographs taken by a Kalmuk pilgrim which Mr. Rockhill, the Tibetan traveller, in a prefatory note, pronounces "of extraordinary interest," and "An Artist in the Antarctic," by F. W. Stokes, whose pictures are the first news in color from that still mysterious region.

Other out-door subjects are Yellowstone Park ("A Place of Marvels"), by Ray Stannard Baker, in "The Great Northwest" Series, illustrated by Blumenschein, and "An English Game Park," with text and pictures (antelope, rabbits and foreign animals) by the artists, Gleeson and Knight.

The personal articles comprise letters of Walter Scott, recounting his "Later Days," with much variety of detail; "Chapters from a Diplomatic Life," reminiscences of people and events, by Andrew D. White, and "Wesley's Days of Triumph," a pen portrait of this great preacher and interesting character, by Professor Winchester, supplemented by an editorial article, "Wanted, Another Wesley."

An authoritative and important special article on a topic of current interest to both town and country is "A City's Campaign for Pure Milk," by Miss Fallows, with pictures by Miss Harding.

The fiction includes "The Yellow Van," Richard Whiteing's novel, with a scene revealing high play at bridge whist among English women of society; a short tale by David Gray (a horse-sale story); "Overhauling the Politicians," a humorous sketch of the Maine coast, by George S. Wasson; "Chills," a tale of a Missouri overflow, by R. E. Young; "To Her Who Loved Him Best of All," by Cyrus Townsend Brady—in a new vein for that author—and "The Tramp," a curious "Pa Gladden" story by Elizabeth Cherry Waltz.

T. B. Aldrich contributes a paper of random observations on life and literature, and there is an example of Frederick MacMonnies's portraiture and the usual humorous miscellany.

* * *

Lippincott's Magazine for August provides a feast of fiction for idle days. The opening novel, by Elizabeth Duer, is called "The Green Dragon," and possesses all the qualities desirable in a magazine novel. There is not a dull paragraph in it. Through an opportunity spill out of his automobile the "Greek type" chauffeur is cast upon the hospitality of an engaging widow, who sees it her duty to take him in and do for his broken hip-bone until it mends. By that time lots of unexpected things happen, not the least of them being a bit of burglary, which

POLAND-CHINA ... PIGS ... FOR SALE

sired by a son of Corrector, the great prize winner that sold for \$2,500.00 and out of sows by Chief Tecumseh II, Zenith Chief, J. H. Sanders and other prize winners. No better bred in the U. S

Pure bred SHROPSHIRE SHEEP.

ARROWHEAD STOCK FARM,

SAMUEL B. WOODS, Prop.

Charlottesville, Va.



LARGE

== POLAND-CHINAS ==

Choice pigs, boars and brood sows, registered. Shropshire Sheep and Short-Horn Cattle Write for prices and testimonials J. F. DURRETTE

BIRDWOOD, Albemarle Co., Va.

.. BURKE'S GARDEN DORSETS ...

I NOW HAVE READY A NUMBER OF

CHOICE YOUNG RAMS

and about 300 fine grade Ewes. Prices within reach of all Correspondence solicited. SAM'L T. HENINGER,

BURKE'S GARDEN, Tazewell Co., Va.

WOODLAND DORSETS.

ONE of our customers writes: "My sales of grade Dorset winter lambs run this year: first 87 head brought \$870; then prices declined somewhat. I am looking for another good Dorset ram." Woodland Dorsets are standard in excellence.

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

DORSET RAM

Woodland No. 118 (1723) for sale. He is three years old, and in first class condition, and a twin getter. Must sell to prevent in-breeding. FRED. E. BEECHER, Cismont, Va.

150 JACKS, JENNETS and Mules 150



Best assortment I ever owned. Can suit you exactly. Write for description and prices. Also will sell two Percheron Stallions at close figures.

BAKER'S JACK FARM, Lawrence, Ind.

Poland Chinas, Chester Whites and Mammoth Bronze Turkeys at Farmers' prices

S. M. WISECARVER,
Rustburg, Va.

—6 Scotch Topped—

SHORT HORN BULL CALVES

6 Scotch Topped SHORT HORN Bull Calves 3 to 15 months old; reds and roans; sired by Verbena's Champion No. 1298S1, and Royal Chief No. 185432, and he by imp. Royal Stamp No. 146662. Poland China Spring pigs, good ones, sired by Coler's Perfection No. 56105. Pedigrees furnished with all stock sold. Come or write your wants.

WM. T. THRASHER, Springwood, Va.

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

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



COOK'S CREEK HERD
Scotch-Topped
Shorthorns

Herd Headed by Governor Tyler, 1585 48. Young Bulls for sale. Inspection and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

FOR SALE

Two good young SCOTCH TOPPED SHORTHORN BULLS, a red and a roan, about six and ten months old. Will sell low if taken soon. Also some nice heifers and Berkshire pigs. Address, ORMSBY BROS., Lakeland, Ky.

SHORTHORNS, BRED HORNLESS.

The coming breed of beef cattle.

Have all the merits of Shorthorns and more, because they have no horns.

Buy a Polled-Durham Bull

J. L. HUMBERT, Charlottesville, Va

REGISTERED JERSEY BULLS FOR SALE AT A BARGAIN.

Calves 1 and 2 yr. olds; also

EGGS FOR HATCHING, W. & B. P. Rocks, W. & B. Leghorns, and S. L. Wyandottes, 75 cents for 15.

J. B. JOHNSON, Manassas, Va.

"CLOVER HILL FARM"

REGISTERED ABERDEEN ANGUS

Cows and heifers for sale. Prices low.

W. B. MACGREGOR,
Avon, Va.

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

is specially thrilling in the telling. Needless to say, the end is love.

Marion Harlan outdoes herself in the powerful story she contributes to the August Lippincott's, called "The Seventeenth of August, 1844." The title smacks of history, but the pathetic tale is pure fiction of the most appealing sort. An adventure story by William Le Queux, called "The Man with the Black Spectacles," is a rousing good one about a royal disguise and what comes of it.

The way a medical man sacrifices himself for a friend, whose wife finds some compromising letters in her husband's pockets, is told under the title "Another Man's Excuse," by E. Spence de Due. This sounds true.

Edward Boltwood's sketches of western camp life are well liked. That in Lippincott's August number, entitled "Cupid in the Horse-Camp," is one of his best.

Churchill Williams tells stories as if he saw before him what he is writing about, and so impresses it upon the reader. His tale of a strike at the Sampson Steel Mill, called "The Siren," is most graphic and interesting, showing what one man can do against many.

"For A' That," by Clinton Dangerfield, hides a moral under a parable, in which a German monarch and an American ranchman become the best of friends. There is an amusing easy-dialect tale by Ella Middleton Tybout, entitled "The Offending Eye."

A single exception to fiction in the August number of Lippincott's Magazine is a paper entitled "Father Kneipp and His Cure," by Maud Howe. She says that Father Kneipp dislikes "women who wear gloves, a veil and a good bonnet," so let all such beware if their troubles lead them to him for a cure.

REPORTS.

U. S. Department of Agriculture, Washington, D. C. Year Book of the Department of Agriculture, 1902. This is a most excellent issue of this valuable publication, and ought to be in the hands of every farmer. Write your congressman or senator for a copy. The department itself has no more copies allowed it than suffice for its correspondents.

Bureau of Plant Industry, Bulletin 43. Japanese Bamboos and Their Introduction into America.

Bureau of Plant Industry, Bulletin 44. The Bitter Rot of Apples.

Division of Foreign Markets, Bulletin 32. Distribution of the Agricultural Exports of the United States, 1898-1902.

Bureau of Forestry, Circular 25. Forestry and the Lumber Supply. Progress in Secondary Education in Agriculture, by A. C. True.

Practices in Crop Rotation, by G. K. Holmes.

Bureau of Soils, Circular 10.—The

My Fine Herd of Registered SHROPSHIRE SHEEP

FOR SALE—As I retire from farming after this year, I offer the above at a very great discount. Write me for prices on come, see them.

H. R. GRAHAM,

BARCLAY, P. O., Queen Anne Co., Md.

FOR SALE**SHROPSHIRE SHEEP**

1 yearling buck, 1 two year old buck, and several buck lambs, all registered.

Apply to, ANTRIM STOCK FARM,
Warrenton, Va.

"MEADOW BROOK STOCK FARM."

Shropshire Sheep.

Very fine yearling bucks, sired by best English bucks, from pure-bred native ewes. Fine ewe lambs for sale.

C. A. SAUNDERS, Culpeper, Va.

Suffolk-Down Sheep For Sale.

I now offer Buck and Ewe lambs of this splendid breed which has proven itself the best adapted for crossing for early lambs Single Buck, \$15.00; Buck and 2 Ewes, \$40 00.

D. M. CLOYD, - Dublin, 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.

**Ayrshires, Berkshires and Oxford-Downs.**

Ayrshire Calves of both sexes, Berkshire Pigs and Boar and 2 Oxford-Down Rams for sale. MELROSE CASTLE FARM, Enos H. Hess, Manager, Casanova, Va.

The RICHMOND, FREDERICKSBURG and POTOMAC R. R. and WASHINGTON SOUTHERN R'Y

Form the Link connecting the

Atlantic Coast Line R. R.,
Baltimore and Ohio R. R.,
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and Southern R'y.

Between all points, via Richmond, Va.

Fast Mail, Passenger and Express Route between Richmond, Fredericksburg, Alexandria, Washington, Baltimore, Philadelphia, New York, Boston, Pittsburg, Buffalo and All Points North, East and West.

W. P. TAYLOR, Traffic Manager, Richmond, Va

Mention the *Southern Planter* in writing.

Use of Alkaline and Saline Waters for Irrigation.

Publications of the United States Department of Agriculture for sale by the Superintendent of Documents.

Farmers' Bulletin, 159. Scab in Sheep.

Farmers' Bulletin, 173. A Primer in Forestry.

Farmers' Bulletin, 174. Broom Corn.

Farmers' Bulletin, 175. Home Manufacture and Use of Unfermented Grape Juice.

Farmers' Bulletin, 176. Cranberry Culture.

Farmers' Bulletin, 177. Squab Raising.

Alabama Experiment Station, Auburn, Ala. Bulletin 123. Vetch, cow peas and Soy Bean Hay as Substitutes for Wheat Bran.

Bulletin 124. The Horticultural Law. Notes on some of the insect and fungous diseases affecting horticultural crops.

California Experiment Station, Berkeley, Cal. Bulletin 147. Culture Work at the Sub-Stations. 1899-1901.

Bulletin 148. Resistant Vines and Their Hybrids.

Bulletin 149. The California Sugar Industry.

Bulletin 150. The Value of Oak Leaves for Forage.

Idaho Experiment Station, Moscow, Idaho. Bulletin 38. Grass and Forage Plants in Idaho.

Kansas Experiment Station, Manhattan, Kan. Bulletin 117. Bacteria of the Soil.

Bulletin 117. Flesh and Fat in Beef.

Maryland Experiment Station, College Park, Md. Economical methods for Improving the Keeping Qualities of Milk.

Maryland Agricultural College Quarterly, May, 1903.

Missouri Experiment Station, Columbia, Mo. Bulletin 62. Hessian Fly in Missouri.

Bulletin 61. Apple Growing in Missouri.

Nebraska Experiment Station, Lincoln, Neb. Bulletin, 80. Experiments in Mulching Garden Vegetables.

New Hampshire Experiment Station, Durham, N. H. Bulletin 102. Insect Record for 1902.

New York Experiment Station, Geneva, N. Y. Bulletin 232. Popular Edition. An Unsuccessful Cabbage Rot Remedy.

New Mexico Experiment Station, Mesilla Park, N. M. Bulletin 44. Ash Analysis of Some New Mexico Plants.

Bulletin 45. Pumping for Irrigation from Wells.

Ohio Experiment Station, Wooster, O. Bulletin 139. A Rosette Disease of Potatoes.

Rhode Island Experiment Station, Kingston, R. I. Fifteenth Annual Report.

South Dakota Experiment Station,

• DUNTREATH BERKSHIRES •

"BRED-IN-THE-PURPLE."

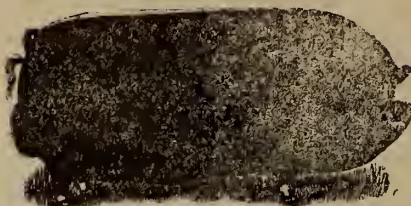
EXTRA CHOICE Young Pigs for sale, all eligible to registry, and now ready for shipment. Orders also taken now for late Summer and Fall shipments.

DUNTREATH STOCK FARM,

Box 666.

RICHMOND, VA.

REFERENCE: American National Bank of Richmond.



BERKSHIRES.

Imported Sir John Bull, No. 3609—B. H. B.
Imported Dansfield Roland, No. 60528—B. H. B.
Imported Columbia, No. 60527—B. H. B.
Imported Royal Carlisle, No. 4841—B. H. B.

And that Immensely Princely Hog

Uncle Sam, No. 7233 are the sires of my Spring and Summer offerings of pigs. Does this list of Royalty suit your fancy? They represent the most famous Berkshire breeders of England. Fancy stock, moderate price

Fancy Pups and fancy pigs do not fancy each other; be prompt if you want a ready-for-field pup at a sacrifice.

Short Horn (Durham Cattle) for sale. Write for particulars.

THOS. S. WHITE, Fassifern Stock Farm, Lexington, Va.

HILL TOP STOCK FARM.

Berkshire Hogs and South-Down Sheep

A SPECIALTY.

S. Brown Allen, who succeeds H. A. S. Hamilton & Co in the ownership and management of this celebrated Stock Farm, offers a few Berkshire Pigs that have been bred without regard to cost, and one and two year old

SOUTHDOWN BUCKS,

that cannot be excelled in this country. We have swept premiums on this stock over all competitors at Fairs in this and adjoining States

S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)

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,

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F. V. GUNN & CO., Richmond, Va., Agts. Va. & N. C. • The WEST DISINFECTING CO., Inc., Mrs.

Brookings, S. D. Lamb Feeding. Fattening Sheep on Grass.

Virginia Experiment Station, Blacksburg, Va. Virginia State Crop Pest. Commission Announcement in Regard to Enforcement of the Law.

Virginia Weather Bureau, Richmond, Va. Report for June, 1903.

Imperial Department of Agriculture for West Indies, Barbadoes, W. I. Agricultural News, June, 1903.

PAMPHLETS, ETC.

Sheep Upon the Cotton Fields and Other Matters. By Edward Atkinson. An address prepared for submission to the Southern Cotton Spinners Association.

Fuel—What We Don't Know About It. By Edward Atkinson. There is much food for thought and many suggestions of value in this pamphlet.

International Live Stock Exposition, Union Stock Yards, Chicago, November 28th to December 5, 1903. Preliminary classification.

St. Louis Exposition, Department of Horticulture. Circular of information as to exhibits and methods of preparing and preserving them. Copy will be sent on application to F. W. Taylor, World's Fair, St. Louis.

Franklin Davis Nursery Company, Baltimore, M. Catalogue.

Danville Military Institute, Danville, Va. Prospectus, 1903-1904. This is a most beautifully got-up pamphlet with a pile of information as to this excellent school.

American Devon Cattle Club, Newark, O. Year Book for 1903. L. P. Sisson, Secretary, Newark, O.

International Stock Food Company, Minneapolis, Minn. Dan Patch March. Composed by Carl Willis.

BACK NUMBERS WANTED.

The file of the SOUTHERN PLANTER in the Library of Congress lacks:

Volume 1 to 10 (1841-'50). N. S., 8, 9 (1874-'75).

Volume 38 to 40 (1877-'79).

Volume 18, No. 12—December, 1858.

Volume 19, Nos. 1, 9, 10—January September, October, 1859.

Volume 21, No. 6 to 12—June to December, 1861.

New Series, Volume 1, Nos. 1 to 5—February to June, 1867.

New Series, Volume 6, Nos. 5, 6, 7—May, June, July, 1872.

New Series, Volume 7, Nos. 2 to 12—February to December, 1873.

Volume 37, Nos. 5 to 12—May to December, 1876.

Volume 41, Nos. 2 to 6—February to June, 1880.

Volume 43, Nos. 9, 11—May 15, June 15, 1882.

Volume 45, No. 7—July, 1884.

Volume 50, No. 10—October, 1889.

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FOR SALE AT INTRODUCTORY PRICES.



Choice Bulls from 3 months to 2½ years old.

The Best Breed in the world for grading-up purposes.

Call and see them or write for prices.

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Baron Roseboy, 57666, by the great Gay Blackbird, dam by Eulalies Eric, 2d prize yearling at Columbian Exposition, 1893, heads the herd. Pedigree means only the tracing of good or bad qualities through several generations. The animals comprising this herd are direct descendants of the greatest prize-winners of the breed for the past twenty-five years. Does this mean anything to you, who are in need of an animal of this the GREATEST BEEF BREED? If so, come and see the best lot of calves we ever bred, or write.

A. L. FRENCH, Proprietor, R. F. D. 2, Byrdville, Va.

(Note change of P. O. address).

Depot and shipping point, Fitzgerald, N. C., on D. & W. R'y, 24 miles southwest of Danville, Va.

EMILY'S CHARGE—A BID FOR WALTER.

CHAPTER II.

A few days after the funeral the orphans received a visit from their father's brother, Dr. Henningham, a man who, whilst possessing much of their father's frankness and geniality, was very different from him in some of his traits and habits. Dr. Henningham was of a convivial nature, and though not a confirmed drunkard, he drank enough to impair his vigor, both of mind and body, and to cast a shadow over his household. Emily had many a time turned away with tearful eyes and burning cheeks as she observed the thick utterance and shaking hand of her uncle, whose kindly and genial nature attached her to him, despite his weakness.

Dr. Henningham had no son. His family consisted of his wife and two daughters, and he now proposed to adopt Walter. Grateful as she was for the kind spirit displayed in the offer, Emily shrank back reluctantly from accepting it. True, her uncle had his good points and attractive qualities, but with his fatal weakness this would but render his influence stronger, and hence more dangerous to a youth under his charge. Dissipation would appear more tolerable and even attractive in a person so agreeable and warm-hearted, than in a churlish and ungifted one. Besides, she could already discern a family likeness between her uncle's temperament and Walter's, which would make the risk all the greater, were she to give up the boy into the former's keeping. True, he could give Walter more material comforts and advantages than she could possibly do, but then she had learned from her mother to consider, first of all, what would nourish and conduce to the higher life, and then to take a secondary view of those that conduce to natural life, and when these conflicted, she always aimed to make the lower and transient give way to the higher and the enduring. Looking at the subject in this way, she could not feel it right to accept her uncle's offer for Walter, especially as she had promised her mother to guard the boy from temptation, as far as in her lay. After maturely considering the subject, she came to the conclusion that her uncle could give Walter no advantages that would offset or neutralize the harmful influences and examples to which the boy would be exposed, and, therefore, she thanked her uncle, affectionately, but declined his offer.

"I think I must try to keep Walter myself," she said. "He is almost like my own son, and my mother was so anxious for me to keep him with me, if possible."

"But, Emily," exclaimed her uncle, "you surely cannot realize what you are saying; what you are declining for Walter. I propose to support and educate him, as if he were my own son. You will not find it such a light

The Old Way—Kicking Corn With Knife Fastened to Boot



FARMERS DON'T KICK NOW!

Their corn is cut with

DEERING IDEAL CORN BINDERS

Deering Corn Binders gather all of the corn. They do not waste. They are constructed on the grain binder principle; the corn is bound while in a horizontal position in the same manner as a sheaf of wheat. They do not knock off ears.

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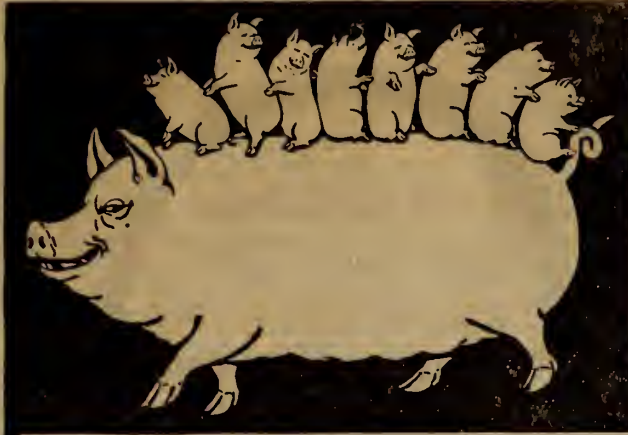
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MAKES PIGS GAIN 3 LBS. PER DAY

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job to do this. In fact, you will find it impossible."

"I think, uncle," she replied gently, but firmly, "I shall keep him with me, and do the best I can for him, though I thank you from my heart for your kind offer."

"How do you propose to support him?" asked her uncle, half in kindness, half in irony.

Emily detailed their resources, their little piece of property and her plan of teaching school, adding that she had collected a hundred dollars of rent just before her mother's death, and she had a few pieces of old family silver to dispose of.

"A blue prospect!" exclaimed Dr. Henningham. That little cottage and tract of land, if sold in the present depressed condition of real estate, would scarcely bring enough to support you six months."

"But I don't want to sell it," replied Emily, my plan is to live there and try to get a school in that vicinity."

VIRGINIA DIVISION.

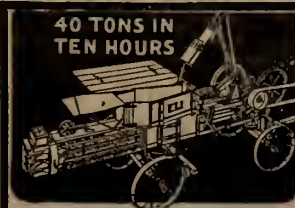
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A Fire Insurance Association, chartered by the State of Virginia, for farmers, under an amended and well protected plan.

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For further information, address, CHAS. N. FRIEND, General Agent, CHESTER, VIRGINIA.

MENTION THIS JOURNAL.



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It leads in power, in speed, in safety, in convenience and ease of operation and makes compactest and shapeliest bales.

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the pride of shippers. Steel or Wood, Horse or Steam Power. Such automatic features as self-feeding, block placing, hay condensing, bell ringing, etc. 38 styles and sizes. Get free Eli catalog

COLLINS PLOW COMPANY, 185 Hampshire St., Quincy, Ills.

"Teaching is a precarious business," said her uncle, "and not well paid. Still you might make a living by it if you only attempted to provide for yourself; but with two mill stones around your neck—"

"One point you overlooked, uncle," she rejoined. "Walter is now twelve. In a few years, say, five or six, he will probably be able to support himself and protect and help his sisters."

"It is not so easy," replied her uncle, "for young men to find openings to support themselves, and Walter will find unusual difficulties if you persist in debarring him from such advantages as are within his reach. You are so quixotic, so Utopian, I scarcely know whether to laugh or be provoked. You are as ignorant of the ways of the world as a baby. I give you a year, however, to come to your senses, and then I shall prepare to receive Walter. Doubtless some of the other relatives will adopt or help you to support Alice, and then you may reasonably hope to support yourself by teaching, after you have given up the impracticable task of trying to keep your brother and sister." So saying, he arose and took his leave, a little testily, though not unkindly, reiterating to Emily as he started that she might consider his offer as holding good for twelve months.

(To be Continued.)

FIFTY DOLLARS FOR A BOTTLE OF
GOMBAULT'S CAUSTIC BALSAM.

Jonesboro, Tenn., Feb. 4, 1903.
The Lawrence-Williams Co., Cleveland,
Ohio:

I have used your GOMBAULT'S CAUSTIC BALSAM for wind galls, saddle galls, collar bruises, cuts by barbed wire, splints, knots, etc. I have part of one bottle left, and if I thought I could not get another I would not take fifty dollars for it.—D. G. KEEPLER.

WOODLAWN SEMINARY.

Elsewhere in this issue will be found the advertisement of the Woodlawn Seminary and Musical Institute, of Gordonsville, Va. This splendid boarding school for girls is beautifully and healthfully situated in the Piedmont section of Virginia. Under Professor Edgar Stinson it has all the advantages of a Christian home, fitting pupils for college, teaching or the active duties of life. Send for further information.

Bacon: A dog that runs under a carriage is called a carriage dog, is it not?
Egbert: Certainly.

Bacon: Well, what would you call a dog that runs under an automobile?

Egbert: A dead dog.

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

SEE THAT TUBE



This illustration shows our **STEEL RIBBON GRAIN TUBE**

It is made of one continuous piece of Ribbon Steel. It is perfectly collapsible and flexible. It can not buckle or stop the flow of Grain or Fertilizer. It is used on all

Farmers' Favorite Grain Drills

Our FREE Grain Drill Literature tells all about our other features. Write for it to-day.

BICKFORD & HUFFMAN DIVISION AMERICAN SEEDING MACHINE CO., Dept. B, Springfield, Ohio

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We have for sale, **Young Cows, Heifers and Young Bulls**, from cows testing **18 to 24 lbs. of butter in seven days**, and giving **40 to 60 lbs. of milk per day**. Also—

LARGE YORKSHIRE PIGS,

The coming bacon breed. Our stock is from the most noted breeders in England and Canada.

Write for prices. Address—

BOWMONT FARMS, SALEM, VIRGINIA.

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—IMPORTER AND BREEDER OF—



Poland-China Hogs.

Polled Durham Cattle,

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All carefully bred regardless of cost.

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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.

BILTMORE FARMS, = Biltmore, N. C.

Headquarters for GOLDEN LAD 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.

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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.

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

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Barred, Buff and White Plymouth Rocks,

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AT \$1.00 PER SITTING.

EGGS FROM BLACK DEVIL PIT GAMES.

Never known to run. The grittiest of all games. **\$2.00 PER SITTING.**

We give 15 Chicken and 13 Duck Eggs for sitting. **Order at once.**

Write name and address plainly. Remember the express is no more on 2 or 3 sittings than on 1.

Refer to Augusta National Bank and former patrons. Satisfaction guaranteed or money refunded

P. H. HEYDENREICH, - Staunton, Va.

GOOD HOUSEKEEPING.

In the July number of the SOUTHERN PLANTER there was a request for a recipe for putting up cucumbers for pickle. This suggested the idea that a Housekeeper's Column might add something to the interest and value of the magazine, so we have decided to make the experiment, and the readers may rest assured that any recipe published has been thoroughly tested and found reliable. Most of them are in constant use in a country neighborhood which has long been celebrated for its "good living."

BRINED CUCUMBERS.—I like the cucumbers for pickle to be about two and a half or three inches long. They should be gathered every morning and put into a jar or tub of weak salt water; after a few days take them out and pack them closely in a tight keg or a large jar and pour over them a brine made of one quart of salt and one gallon of water and an inch or two of horseradish; boil and skim and pour it over the cucumbers hot. The horseradish prevents moulding. After nine days they are ready for making up, but they will keep a year if you prefer to make the pickle just as you need it. The pickle we get in the stores in barrels is prepared by soaking all the salt out of the cucumbers (and it takes about three days, changing the water twice a day), and pouring over them enough boiling vinegar to cover, in which you have boiled one cup of brown sugar, one pod of red pepper and one tablespoonful of black pepper and a small piece of horseradish to each gallon. Tie it up and let it stand for two months.

GREEN CUCUMBER PICKLE.—After soaking the salt out of the cucumbers put them into a brass kettle, a layer of cucumbers and a layer of grape leaves, until the kettle is full. Pour over them a weak vinegar, or one quart of strong vinegar to three quarts of water, and set them on the stove and cook very slowly for several hours, or till they are a bright green. Take them out and wipe them dry and pack two gallons into a jar and spread between the layers three tablespoons of white mustard seed, two tablespoons of black mustard seed, three tablespoons of celery seed, two tablespoons of whole black peppers, one tablespoon of cloves, one heaping tablespoon of allspice, one tablespoon of cracked ginger, one tablespoon of cracked nutmeg, one stick of cinnamon, two pods of red pepper and one cup of grated horseradish. Pour over it all three quarts of good vinegar, in which you have boiled ten cups of brown sugar. Heat the vinegar two mornings and the pickle will be ready for use in a month, but is better if kept.

MEXICAN MIXED PICKLE.—Two dozen large cucumbers cut into large pieces. Chop eight heads of cabbage, six dozen onions, two dozen green peppers. Sprinkle nearly a quart of salt over it all and turn it into a bag and hang it

HEREFORDS

CHAMPION PRINCE RUPERT No. 79,539, at head of herd.

A Few High Class Bulls and Calves For Sale.

Write me before buying elsewhere.

EDWARD G. BUTLER,
"ANNEFIELD FARMS,"
BRIGGS, VIRGINIA.

Send for illustration of Prince Rupert.

Registered HEREFORD CATTLE.

Service Bulls; Imported Salisbury 76059 (19083). Lars Jr. 85297.

FOR SALE—A choice lot of bull calves and yearling bulls. The bull calves sold recently weighed 600 lbs. at 6 mos old. Call and make your own selection. Prices right.

MURRAY BOOCOCK, Owners, Keswick, Va.

Bacon Hall Farm.

Hereford REGISTERED Cattle

"TOP" BREEDING, CALVES NOT AKIN.

MOTTO—Satisfaction or no sale.

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

C. C. TALIAFERRO,
NASONS,
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1903

"MOUNT SHARON STOCK FARM"

Registered SHROPSHIRE SHEEP
Registered POLAND-CHINA PIGS

Reg. and Grade HEREFORD CATTLE
BRONZE TURKEYS & MUSCOVY DUCKS



NOW OFFERS



FOR SALE

HEREFORD CATTLE—Calves, entitled to registration, \$75 to \$100. Grade Calves by "Sir Edward" \$25 to \$40.

SHROPSHIRE SHEEP.—Bucks, one year old and over, \$15 to \$20. Buck Lambs, July delivery, \$10 to \$12. Ewe Lambs, July delivery, \$8 and \$10.

POLAND-CHINA HOGS.—Pigs, six weeks old, \$5. Pigs, two or three months old, \$7.50. Pigs, five months and over, \$15 to \$20.

M. BRONZE TURKEYS.—Toms, \$4. Hens, \$3. Eggs, per sitting of 12, when in season, \$4.

MUSCOVY DUCKS.—Pure White Drakes, \$1.25. Pure White Ducks, \$1. Pairs, \$2.25. Trios, \$3.

BARRED PLYMOUTH ROCKS.

ROUEN GESE.—Ganders, \$2.50. Geese, \$2.50. Eggs, per sitting, \$3.

WILLIAM L., Jr., No. 21058, half brother of Axtell, will serve a limited number of mares for \$25 the season. Mares boarded at lowest figures per month.

St. Albans School, Radford, Virginia.



This school is beautifully located on a sunny headland, above the banks of the New River, in the famous Blue Grass Region of Virginia. Ideal spot for health and sanitation. Prepare your boy for the university or business by sending him here.

Prof. W. H. RANDOLPH, Headmaster, would like to mail you a catalogue containing the "Plan of St. Albans School."

up on the clothes-horse to drip. The next day squeeze it well and put it into a kettle, sprinkling four ounces of white mustard seed, four ounces of black mustard seed, six ounces of turmeric, four ounces of celery seed, three-quarters of a pound of ground mustard between the layers. Dissolve eight pounds of sugar in two gallons of best vinegar and pour it over the mixture; boil until the vinegar begins to thicken. This makes about four gallons and is the very best pickle in the world.

RIPE CANTALOUPE JAM.—This was an experiment one summer when we had more melons than we could use and very little other fruit, and it proved such a success we always make it, whether we have a quantity of other fruit or not. The melons must be really ripe. Peel them and chop into small pieces and put them on and boil until mushy. Then add three fourths of a pound of sugar to each pound of the fruit; season a ten pound lot with four pieces of white ginger, one dozen cloves and three sticks of cinnamon. Boil until clear and put into glass jars.

FOR SALE

BERKSHIRE BOAR ready for service, long body, short stout legs, well quartered & correctly marked, price \$20.00 Will also take orders for pigs ready for September shipment

FOREST HOME FARM,
PURCELLVILLE, VA.

"The Oaks" Herd.
OFFERS FOR SALE—
2 Registered SHORTHORN COWS,
2 Registered MORGAN COLTS, and a few good yearling SHROPSHIRE RAMS.
B. B. BUCHANAN, Bedford City, Va.

This burns so easily that you must stir it all the time after adding the sugar. Crush the ginger.

CHEAP SPONGE CAKE.—Six eggs, beaten separately, very light; to the yolks add three cups of sugar; beat again; then add one cup of cold water. Sift four cups of flour twice with two teaspoons of baking-powder. Put the flour and whites of eggs in alternately and stir as little as possible. Flavor with nutmeg and bake in thin jelly-cake pans, or in cards in the biscuit pans. This is good with a sauce.

CARAVEN.

TOPPING THE MARKET.

Cattle fed on shredded corn stover have repeatedly topped the live stock market in price. The great nutritive properties of shredded corn stover make it an ideal stock food, easily accessible to all farmers.

The size and price of huskers and shredders, until recently, made it impossible for the small growers to secure a machine for the preparation of corn fodder. The advent of the Deering Two-Roll Husker and Shredder, which meets the wants of the individual farmer, placed it within the means of the small grower to enjoy all the benefits of shredded corn stover. The Deering Four-Roll Husker and Shredder is a strong, reliable machine designed especially for the large grower or a club of farmers.

The scientific construction of the Deering shredder head makes the shredded stover produced by Deering machines especially wholesome and nutritious. Deering shredded corn stover is famous for its quality. It makes fat cattle.

HIS IDEA OF A PRAYER.

Harold, the 5-year-old son of the Presbyterian minister of Dayton, Ky., was being prepared for bed. He had spent a very active day at coasting, and was weary and very sleepy.

"Now, Harold, kneel down by mamma and say your little prayer."

"But, mamma—" half asleep, with his head on her shoulder.

"Be mamma's good boy, now," coaxingly. "Thank God for all His goodness to you."

But Harold was asleep.

His mamma gently aroused him. "Harold, don't be naughty. Be a good boy, now, and thank Jesus for the nice home you have, the warm clothing and fire to keep you warm and a mamma and papa to love you. Think of the poor little boys who are hungry and cold to-night, no mamma to love them, no warm bed to go to, and—"

"But, mamma," interrupted the sleepy boy, roused to a protest, "I think them's th' fellers that ort to do the prayin'."—*Will M. Hundley, in August Lippincott's.*

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

ARMOUR'S BLOOD MEAL Cures Scours in Calves.

First proved by the Kansas Agricultural Experiment Station, and since corroborated by thousands of leading stockmen who have used it without a single failure. Equally effective for the diarrhoea of all animals.

PREVENTS weak bones, paralysis of the hind legs and "thumps" in pigs; "big head" of foals; "rickets" of all young animals; abortion due to incomplete nutrition, and a host of other troubles.

A Potent Food for Work Horses, Dairy Cows, Poultry.

Write us for booklet giving valuable information about Blood Meal and our other feeding products. Consult us free of charge regarding stock diseases.

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"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.

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

Our Berkshire Pigs are now closely sold up, but we 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.

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FARMER AND STOCK RAISER

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ADVICE FREE

if application is made to us.

Rams, Windmills, Gasoline Engines
for pumping and farm use



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IT STANDS FOR BIG CROPS.

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SPANGLER Low-Down Drill

Grain and Fertilizer
Positive force feed for fertilizer, grain and grass seed. Drills any depth, perfect regulation, low steel or wood frame, high wheels with broad tires. Easy to fill and operate. Light draft. Investigate before buying. Write for free catalogue.

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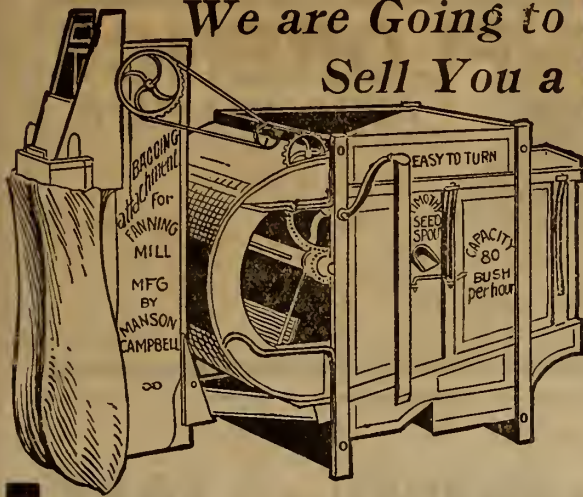


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FULLY WARRANTED.

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CHATHAM FANNING MILL

On 60 Days' Approval



to convince you of its superiority over any fanning mill you ever heard of. If that isn't long enough time we will take your **Three Years Note**. **WE KNOW** what the **Chatham** will do for you, how much money it will make, how much it will save you, how strong it is, how easily it runs and the perfect work it accomplishes. It will **clean and grade** your seed grain, will enable you to sell your clean grain at the top price, will save the timothy seed from the yearly crop of grain, save the screenings for feed for your stock. **The Chatham** will clean and grade any kind of seed or grain. The new bagging attachment saves the work of one man. We have already sold **OVER** one hundred thousand (100,000) of them in every part of the U. S. and Canada, and are not going to stop until we place one in the hands of every farmer, stock raiser and seedsman in North America. We want you to send us your name and address. We will then send you the most instructive book, free.

"How to Make Dollars Out of Wind."

It tells ways of making easy money that you never thought of. We will also outline our **THREE YEARS' Plan** of selling you a **Chatham**. It will surprise you by its liberality and convince you that we believe in our mill. It gives you a chance to let the mill pay you before you pay us for the mill.

Here are some of the things others have done with the help of the **Chatham Fanning Mill**:

Fred Dietz, Ransomville, N. Y., got \$108 cash for timothy seed out of his wheat, and didn't know there was any there.

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D. M. Bethune, Bethune, S. C., obtains \$1 extra on every 100 pounds of rice by using the Chatham.

G. Woodring, So. Charleston, O., secured \$157 worth of grass seed from cleaning up the refuse in barn floors and mangers.

Read this letter from the Superintendent of the High Shoals Manufacturing Company.

Now write us and get that free book and our proposition to make you money. Address

M. CAMPBELL FANNING MILL CO., Ltd., Manufacturers of the Chatham Fanning Mill **116 Wesson Avenue, Detroit, Mich.**

High Shoals Manufacturing Company,

YARNS, SHIRTINGS, CHECKS, STRIPES, ETC.

Talmage Hardware Co., Agents for Chatham Fanning Mills, High Shoals, Ga., May 25th, 1903.

Gentlemen:
The Chatham Fanning Mill bought of you is by far a more valuable machine than I first thought. As you know I did not get this machine until after I had begun to plant my cotton. When the Fanning Mill arrived, in order to test its merits, I fanned out a lot of the remainder of the seed of my cotton and to my surprise on looking over the fan I found that the seed fanned before planting came up a great deal better, in fact one would not believe that the Fanning Mill would make such a difference. In addition to the stand of cotton I saved at least one-third of the seed. I do not think that I can afford to do without this machine even at double the price I paid for it. I have had several of my neighbors to fan their seed and they all speak in the highest of terms so far as they can see at present. I have only used it on cotton seed and fanning peas, and as stated above I would not think of doing without it at even twice the cost.
Yours respectfully,
A. J. Baxter, Supt.

Dict. to V. C.

A NOVEL HAT.

Rev. John Mathews, who was a pioneer Methodist preacher of Alabama, has been remembered for his strict views and many peculiarities.

His wife, who was more liberal in her ideas, was fond of dress, and once sold a bureau and with the money bought a new hat.

The following Sunday Brother Mathews, being disturbed at the beginning of his discourse by several of the congregation turning to see the late arrivals, said:

"Brethren and sisters, don't bother to look around any more. I'll tell you who comes in."

This he did, calling each one by name, much to the mortification of the tardy members. His wife was among the last, and when she walked down the aisle he said:

"Make way there for Sister Mathews. She is coming with a bureau on her head."—August Lippincott's.

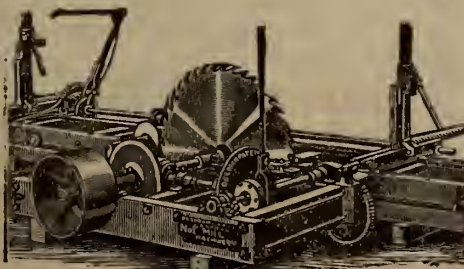
Mr. Nabor: I witnessed your husband's performance at the play last night, and I must say it was a great success; I never saw more natural acting.

Mrs. Tartar: Indeed! Personating Mephistopheles, I suppose.

The DeLOACH Saw Mills are Sure Winners.

Eight sizes, from Farmers' 4 h. p. up to 200 h. p.

If interested, write for large illustrated catalogue of DeLoach Patent Saw Mills to suit any power from 4 to 200 h. p.; Shingle Mills, Planers, Edgers, Trimmers, Stave and Lath Mills, Bolters, Corn and Ruhr Mills, Water Wheels, etc. To introduce our New Farmers' Saw Mill, fitted with DeLoach Patent Variable Friction Feed, we make this special offer:



We will deliver on cars at factory our No. 0 Pony Farmers' Saw Mill, with Duplex Dogs, Improved Head Blocks, and Ratchet Set Works, complete as shown in cut, except it has Carriage made in two 4 foot sections, with Rope Drive instead of Rack and Pinion without Saw or Belt, for \$115.00 Spot Cash!

With 36" Solid Saw, \$127.50; 40", \$132.50; 44", \$140.00; 48", \$150.00.

With 36" Inserted Saw \$147.50; 40", \$162.50; 44", \$160.00; 48", \$170.00.

Best Rubber Belting, 4-ply, 6", 20 cents per foot; 8", 30 cents per foot, NET.

No discount from these prices.

Our Warranty: This mill is warranted to be made in a workman-like manner, of first class material throughout, and to give perfect satisfaction if operated according to our printed instructions, which are so simple that a boy can understand them. Any one with ordinary intelligence can set and operate without the assistance of an experienced sawyer: will easily cut 2,000 to 2,500 feet of first class board lumber per day with only 4 h. p.; 3,000 feet with 6 h. p.; 4,000 feet with 8 h. p.; is adapted to any kind or size power up to 15 h. p.

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The DeLoach is the only mill made that is shipped to all parts of the world. Over 10,000 in use.

When corresponding with our advertisers always mention the *Southern Planter*.

DAVID AND GOLIATH.

(A true and fair account, in common metre, of this single combat, by an Irish bard. Written by Gen'l Basil W. Duke.)

The brightest boy ould Jesse had
Was David, youngest son,
Ha was a bould and active lad,
Well loiked by ivery one.

Altho' he had to moind the sheep,
To larn he was so sharp,
Whin other boys wor' fast asleep
He'd practice on the harp.

'Twould make the birds av hiven hide
Their heads to hear him sing.
He'd murder half the country side
Wid pebbles and a sling.

And thin the soothin' ways he knew
To capture young and old;
The female sex—Och, Whillielu!
'Twas there wor' his best hold.

Whin David was some eighteen years
Of age or thereabout,
Betwene the haythen and Judear
A bloody war broke out.

His brothers 'listed for the war—
Begorra! they wor' daisies;
His father tuk a contract for
To sell the army chases.

"David," the ould man said wan day,
"You'd loike a little thramp,
Jist load some chases on the dhray
And take 'em down to camp."

He dhrove to camp and sought straight-
way
The commissary's tent;
He got a voucher for his pay,
Thin to his brothers went.

He found thim lookin' mighty blue
And in a dhreadful fright;
Retrate was what they wished to do
And divil a bit to fight.

A big, black bully, tin foot tall,
Was bluffin' all the Jews,
And throops and staff and Gin'ral Saul
Wor' quakin' in their shoes.

Goliath was the craythur's name,
A howlin' Phillistine;
His sword was loike the lightnin's
flame,
His staff was loike the pine.

He wore upon his back and breast
Tin thousand pounds of brass;

PURE BRED

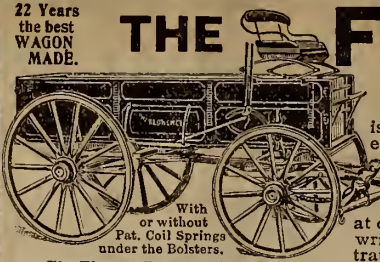
Short Horn Calves
from fine Stock. Also

Yorkshire Pigs
of very Prolific Breed.

JAS M. HOGE, Hamilton, Va.

22 Years
the best
WAGON
MADE.

THE FLORENCE FARM WAGON



is FULLY GUARANTEED to be the very best, strongest and lightest draft wagon for all farm purposes. Neat, handsome, substantially constructed from best grade seasoned timber, well ironed, it possesses every quality that makes it desirable. See the FLORENCE at our nearest agency. If there is no agency near, write us direct and we will send you free our illustrated Catalogue, our attractive periodical "The Florence Waggin' Tongue," and make you an offer to supply you with a FLORENCE WAGON on liberal terms and at a low price.

With
or without
Pat. Coil Springs
under the Bolsters.

The Western Farmer's Favorite.

Write today to Dept. C. FLORENCE WAGON WORKS, Florence, Alabama.

LEE'S PREPARED AGRICULTURAL LIME

The Old Reliable for WHEAT, OATS,
CLOVER and OTHER GRASSES; has
stood the test for twenty-five years,
being composed principally of Hydrate
of Lime, Sulphate of Lime and Potash.

OUR SPECIAL WHEAT FERTILIZER.

We put this brand on the market only a few years ago, and have had very flattering results. The best farmers say that they get better STAND and GROWTH of GRASS and CLOVER from it than from other fertilizers. This we can confidently recommend for CORN-LAND or any other land of fair fertility.

FRUIT TREES.

Maj G. A Barksdale of Richmond, Va, has used our PREPARED LIME on his fruit trees, and says it has made wonderful improvement, both in the condition of the trees and quality of the fruit.

PLAIN SHELL LIME

Constantly on hand at lowest prices.

No. 1 WOOD-BURNT LIME

In car lots at lowest market price from kilns.

If you wish to IMPROVE your land, use a ton to four acres for WHEAT and CLOVER, or if you wish to seed it for other GRASSES where the land is in good condition, use the same quantity and it will give you a good STAND and GROWTH of GRASS. For reclaiming POOR land, where there is little or no VEGETATION, COVER naked places with litter from the barnyard or forest, using the same quantity, and sow winter OATS and CLOVER.

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WE ARE THE LEADERS OF LOW PRICES.

Pride of Richmond Flour.....	\$4.35
No better can be gotten.	
Daisy Flour, which is a fine article	4.00
Mill Feed, Ship Stuff, sacked, per 100	\$1.15
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Coarse Meal, sacked, per 100.....	1.20
Cotton Seed Meal, sacked, per 100.	1.40
Chop Food, sacked, per 100.....	1.25

We are the leaders in our line of goods. We are new in the retail business, but we know how to treat our customers, as we have been doing for years.

SOAPS! Now we have lots of Soaps. The brands are of such variety that it would be taking up your valuable time in putting the brands in rotation, but we will give you prices on our leading goods:

Moon Soap, 8-oz. bars, 100 to the box, per box	\$2.00
Hustler Soap, 120 to the box, 8-oz. bars, per box	2.25

SALT.

200 pound sack, per sack.....	80
100 pound sack, per sack.....	45
Ice Cream Salt, per sack.....	70
Rock Salt, for Cattle, per 100 lbs..	80

CAKES.

Nice Mixed Cakes, per box.....	6½
--------------------------------	----

Ginger Snaps, per box.....	4
Cream Crackers, per box.....	6½
Soda Crackers, per box.....	4

LARDS.

Pure Leaf Lard, 50 lb. can, per lb..	10½
Compound Lard, per lb	9

HERRINGS.

We have a fish that will count	
700 to the barrel, per barrel..	\$4.25
Roe Herrings, per half barrel.....	2.75

WHISKEY.

Old Capital, per gallon.....	\$1.50
Excelsior, per gallon	2.00
Keystone, per gallon	2.50
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N. C. Corn Whiskey, per gallon..	2.00
Gibson, per gallon	3.00
Apple Brandy, per gallon	2.25

Prices Subject to Market Fluctuations. Order Now.

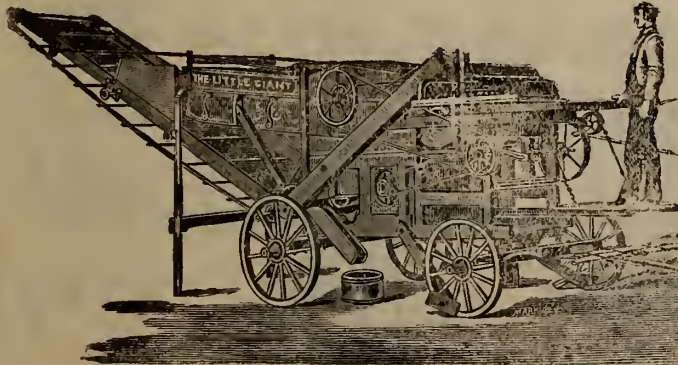
Write for prices on anything in above line not quoted.

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HEEBNER'S.

LITTLE GIANT and PENNSYLVANIA

Machines, and they have splendid improvements for 1903. They are built in first-class manner, and are strong and durable. The price is within the reach of all. We guarantee them to do the work satisfactory. We will mail catalogue and testimonials, and quote prices on application.



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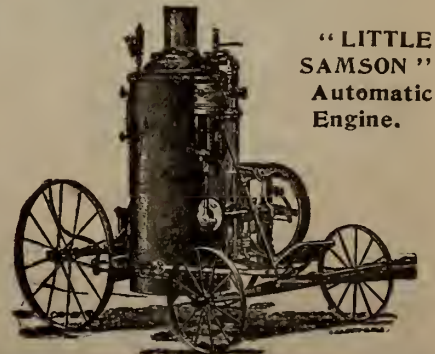
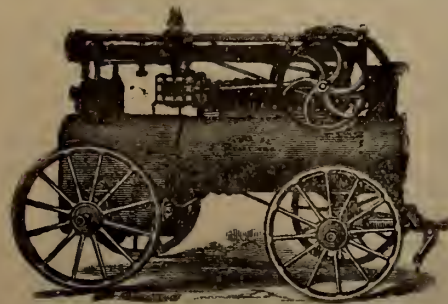
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'CHASE' SAW MILLS

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"LITTLE SAMSON" Automatic Engine.

This cut shows our 5 and 7 h. p. "Little Samson" Vertical, Automatic Engine, for running threshers, peanut pickers, cutting feed, sawing wood etc. Larger size also furnished.

STRATTON & BRAGG CO., 20-22 N. Sycamore St., Petersburg, Va.

The shine av him, completely dhressed,
Would smash a lookin'-glass.

And ivery day the baste would sthru.
Inflamed wid dhrink an' pride,
And kept all Israel closely shut
In lines well fortified.

"Come out," he'd bawl, "Come out av
there,
Beyant your dirty works;
Come, ave ye dare, and fight me fair,
Ye bloody Habrew Turks."

But ivery faithful Israelite
Said, "Lave the blaggard be.
Av course no dacint Jew can fight
Wid such low trash as he."

This sort av thing was well and good,
Till David jined the throop,
Whin he the matter understood,
Bedad, he raised a whoop.

"It is a burnin' sin and shame,"
He said, "upon me word,
To hear this haythen hound defame
The chosen av the Lord."

"And since no other mon has felt
A wish to tan his hide,
I'll fight him for the champion's belt
And fifty pounds a side."

The corp'ril av the guard, he tould
The off'shur av the day
What David said, and he made bould
To mintion it at tay.

The edge-du-kong was in that mess,
And heard the whole discourse;
So he—he couldn't do no less—
Tould Gin'ral Saul, av course.

The Chafe of Staff tould the High
Priest
To send pre-emptuous orders
For David to report in haste
At Gin'ral Saul's headquarters.

But whin the son of Jesse kim
And Saul beheld the lad,
So young, so thinder loike and shlim,
It made him tearin' mad.

"Oh, Houly Moses! look at that,"
Said Saul, "The boy's consate;
How can it be that such a brat
Can match that heavy weight?"

"Wid that blood suckin' giant thafe
This baby cannot strhrieve;
The Phillistine, it's my belafe,
Would eat him up alive."

Thin David said, "My lord, it's thrue,
This sames a rash intint,

Uncle Sam says it's all right

Uncle Sam, in the person of ten of his government officials, is always in charge of every department of our distillery. During the entire process of distillation, after the whiskey is stored in barrels in our warehouses, during the seven years it remains there, from the very grain we buy to the whiskey you get, Uncle Sam is constantly on the watch. We dare not take a gallon of our own whiskey from our own warehouse unless he says it's all right. And when he does say so, that whiskey goes direct to you, with all its original strength, richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE of PURITY and AGE, and saving the dealers' enormous profits. That's why HAYNER WHISKEY is the best for medicinal purposes. That's why it is preferred for other uses. That's why we have over a quarter of a million satisfied customers. That's why YOU should try it. Your money back if you're not satisfied.

Direct from our distillery to YOU
Saves Dealers' Profits! Prevents Adulteration!

HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL QUARTS \$3.20 EXPRESS PREPAID

We will send you FOUR FULL QUART BOTTLES of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. Try it and if you don't find it all right and as good as you ever used or can buy from anybody else at any price, send it back at our expense, and your \$3.20 will be returned to you by next mail. Just think that offer over. How could it be fairer? If you are not perfectly satisfied, you are not out a cent. Better let us send you a trial order. If you don't want four quarts yourself, get a friend to join you. We ship in a plain sealed case, no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utan, Wash. or Wyo. must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

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ATLANTA, GA. DAYTON, OHIO ST. LOUIS, MO. ST. PAUL, MINN.
153 DISTILLERY, TROY, O. ESTABLISHED 1866



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OF RICHMOND, VIRGINIA.

Capital Stock, - - - \$200,000.00
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LIGHTNING HAY PRESSES WILL BALE MORE HAY IN LESS TIME. MAKE SMOOTHER AND MORE COMPACT BALES. AND ARE EASIER DRAFT THAN ANY OTHER PRESS. EASIER TO MOVE. GREATER POWER WITH LEAST FUEL. NO VALVE NO FOUNDATION.

KANSAS CITY HAY PRESS CO. 162 Mill St. Kansas City, Mo.

But while I weigh but nine stun' two,
I'm full av divilmint.

"A lion and a bear kim down
The mountain's rugged sides;
I slew the bastes and went to town
And thraded off their hides.

"And since for roarin' bastes like thim
I've found I'm tough enough,
I'm quite convinced that I can thrim
This blaggard haythen rough."

"Avick!" says Saul, "ye're full ave
pluck,
And wag your little chin
Loike wan who ra'ly thrusts his luck
And manes to thry and win.

"I'll give ye my best coat av mail—
A new spring suit jist made—
Tuck it a thrifle in the tail,
And pad the shouldher blade."

But David didn't understand
The use av sich a thing,
And only wanted in his hand
His staff and thrusy sling.

Whin Goliath saw little David ap-
proachin', after havin' heerd proclama-
tion that a gra'at champion was comin'
out to fight him, musha, he laughed for
to split his sides; and by reason av
what passed bechune thim in the way
av talk, I dhrap out av po'thry for a
bit, bekase, whoile poth'ry is moighty
foine for sintimintal dallogue, it's no
good at all for a ra'al sthrong, forst-

EMPIRE DRILLS



**ACCURATELY MEASURE
ALL KINDS OF GRAIN
WITHOUT CHANGE.**

That is, if you set the Empire Feed to sow any amount from 24 to 128 quarts per acre, it will sow exactly that amount of wheat, oats or any other small grain without further change. A good stand of grain is assured, when you sow with an Empire Drill. Empire Grain Drills do not bunch, skip or choke. Made in all styles and sizes.

Write for Free Catalogues.
EMPIRE DIVISION
AMERICAN SEEDING MACHINE COMPANY,
28 Monroe Street, Springfield, Ohio.



A WASHING MACHINE is as great a necessity in the house as a wringer

THE MAJESTIC ROTARY WASHER

has too many good points for explanation in an advertisement. Your name on a postal card will bring our booklet, with full particulars of our six different machines and how to get them. One of them will certainly please you. All are made with electrically welded wire hoops sunk in grooves—our patent. Being the largest manufacturers of wood-ware in the world, we can make better machines for the money than any one else. If you want a machine that washes, buy one of ours.

THE RICHMOND CEDAR WORKS, Richmond, Va.

WAGONS and BUGGIES



MADE
RIGHT HERE
AT HOME
BY



The BARBOUR BUGGY CO.,
The HUGHES BUGGY CO.,
The VIRGINIA WAGON CO.

All of Virginia.

These vehicles are guaranteed to be as good as can be bought elsewhere; material and workmanship unsurpassed; all sizes and styles, prices low. We can save you time, money and freight by purchasing our vehicles. Send for our illustrated catalogues. Drop in our warehouse and inspect our stock. Inquiries cheerfully answered.

AGENTS FOR DEERING MACHINES.
RICHMOND BUGGY & WAGON CO., 1433 E. Main Street, RICHMOND, VA.
J. T. DUNN, Manager.

class, breezy blaggardin' match.
 "Oh, Jases!" said Goliath, wid the wather bilin' out av his eyes for laughin', "what sort av thing is that? May the divil admire me!" he says, "iv I don't belave it's a monkey escaped from an organ grinder."

"Ye'll foind me a moighty bad thing to monkey wid," says David, "ye big thafe, wid a pot on your head loike a cupolo on a sthame fire engine, and your dirty black mouth loike the hole av a coal cellar."

"Ye little skinned pole-cat," says Goliath, beginnin' to grow mad, whin he diskivered that David's rhetoric was suparior to his, "do ye think I'm a dog that ye've got a shtick to bate me wid?"

"Bedad," says David, "I wouldn't be afther doin' a dacin't dog such in-justice; but it's dog mate I'm goin' to make av ye."

"Hear that!" says Goliath; "'arrah. Now, tache your gran-mother to faad ducks!"

"Dhry up!" says David, "Bad scan to ye," he says. "Ye haven't the since av a catfish. By the light that shines, your bad grammar gives me a cramp in the stummick." Och, David had a

tongue in his head loike a Jews-harp.
 "Tear an' ouns!" says David, "I'll give the buzzards a picnic wid yer karkiss, and shure it 'ull make thim sick to ate ye."

"Ye're a liar," says Goliath.
 "Ye're another," says David, "an' an opthalmic ould Cyclops to boot."

Wid that Goliath lost his temper intoirely. He pawed up the ground and kim at David wid his eyes shut, a-bellowin'—and that brings me back to me poth'ry:

Goliath poised his mighty spear,
 'Twas fifty feet in length,
 And unto David dhravin' near
 He punched wid all his strength;

But David was surprisin' quick
 And spry upon his pins;
 So, dodgin' nately, wid his shtick
 He whacked Goliath's shins.

Wid pain the gaint howled and grinned,
 And dhrapped both shield and lance
 To rub his leg the lick had skhinned;
 Thin David saw his chance.

Takin' a brick from out his scrip,
 He put it in his sling,

And, whirlin' it 'round head and hip,
 He let it dhrive full swing.

Right to the mark the darnick flies,
 As sthraight as to a hod;
 It smote the wretch betwane the eyes
 And stretched him on the sod.

Thin David, for to prove him dead,
 In sight av all beholders,
 Chopped off his unbelavin' head
 From his blasphemious sho'lders.

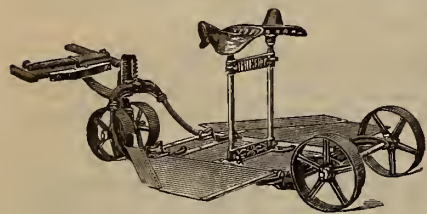
* * * * *
 Whin the Phenaysian sailors sought
 Long since ould Erin's sstrand,
 A prince of David's blood they brought
 Who settled in the land;

From him the Irish race had birth,
 And that's why we delight in
 Beyant all other thribes on earth,
 The harp's swate sstrains and
 fightin'.

That this surmise is in nowise thin
 Can easily be shown,
 For shtick and harp have ever been
 As Erin's imblims known.

So let her inimies beware
 How they indulge their hate;
 Let England thremble lest she share
 Goliath's dhreadful fate.

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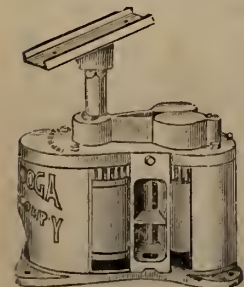
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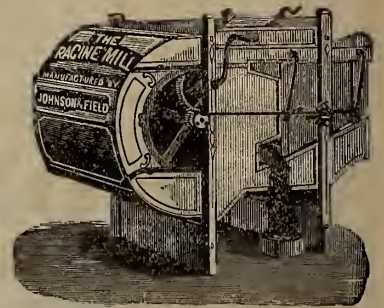
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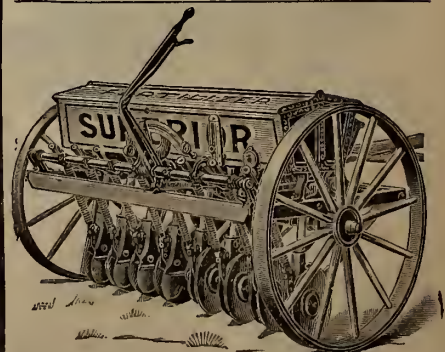
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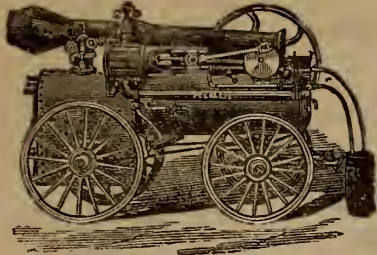
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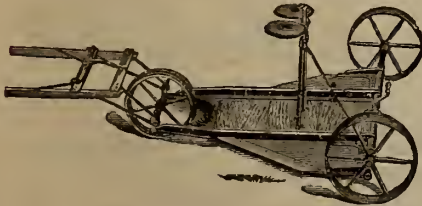
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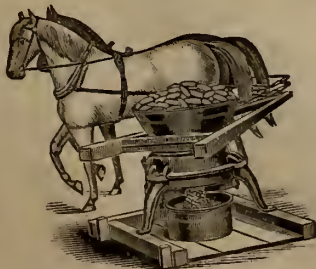
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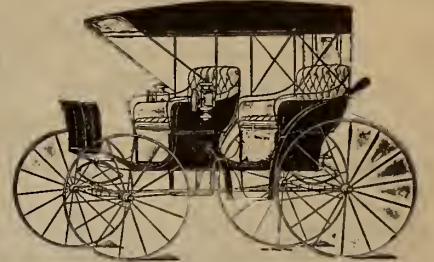
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THE CLOCK STRUCK ONE.

The head of the family, with his beloved sweetbriar and his favorite magazine, had settled back in the rocker for a quiet, comfortable evening.

On the other side of an intervening table was the miniature counterpart of himself, the wrinkling of whose 8-year-old forehead indicated that he was mentally wrestling with some perplexing problem. After a while he looked towards his comfort-loving parent and, with a hopeless inflection, asked:

"Pa?"

"Yes, son."

"Can the Lord make everything?"

"Yes, my boy."

"Every thing?"

"There is nothing, my son, that He cannot do?"

"Papa, could He make a clock that would strike less than one?"

"Now, Johnny, go right upstairs to your ma, and don't stop down here to annoy me when I'm reading."

Johnny went and wondered still.—*August Lippincott's.*

SARAH'S GLOVES.

A family in the South had a coal-black cook named Sarah, whose husband was suddenly killed in a quarry accident. For the time being her grief was allayed by the preparations for an elaborate funeral, and on the day of this event, so dear to negroes who desire to show their importance, she appeared before her mistress in deepest black, but on her hands were a pair of white gloves, such as soldiers wear at dress parade and guard mount.

"Why, Aunty," exclaimed her mistress, "what made you get white gloves?"

Sarah drew herself up indignantly and said in the chilliest of tones, "Don't you suppose I wants dem niggahs to see dat I'se got on gloves?"—*August Lippincott's.*

FORGOT SOMETHING.

It was in a western hotel, and a girl of sweet sixteen had left the table, at which her parents were still seated, and had gone the entire length of the dining-room, when she paused in the doorway and her fresh young voice cut the air with the word—

"Maw!"

"Well?" replied her "maw," shrilly.

"I forgot my gum. Fetch it when you come upstairs. It's stuck under the table right underneath my plate. I'll want it for the *matinay* this afternoon, you know."—*August Lippincott's.*

CREAM TO BURN.

Two little girls were engaged in an animated discussion as to the merits of their respective homes.

"Well, anyway," said one little maiden in a triumphant tone, "you may have more bedrooms than we

have, but we have more cream than you do. We have enough for our cereal every single morning."

"Pooh!" said the other, "that's nothing. We own a Jersey cow, and we get a whole cowful of cream twice every day."—*August Lippincott's.*

A TUNNEL THAT HELPS TO DIG ITSELF.

In the new Simplon tunnel under the Alps, which will be by far the greatest tunnel in the world, having a length of fourteen miles, and which, it is now reported, will be completed in July, 1905, the quantity of water flowing out of the southern end, from the many veins encountered in the heart of the mountain, amounts to fifteen thousand gallons a minute, and furnishes sufficient power to compress the air by which the drills are worked, and to refrigerate the tunnel. The necessity of refrigeration may be judged from the fact that the heat in the deeper parts of the tunnel rises as high as one hundred and forty degrees Fahr. when not artificially reduced. Life would be impossible in the tunnel if a successful system of refrigeration had not been devised. When a continuous hole through the mountain has been made, the temperature can more easily be kept down.—*Youth's Companion.*

Mrs. Brown (nudging Mr. Brown, who snores with his mouth open)—William, you'd make less noise if you'd keep your mouth shut!

Mr. Brown (only half awake)—So'd you!—*Life.*

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THE PLAN WAS SUCCESSFUL.

There are many ways of fixing a misdemeanor upon the person who has committed it. It is commonly thought that lawyers, and not clergymen, are the men most competent for this practice, but the following story leaves one feeling that the honors may be equal:

"Last Sunday," said the clergyman to his congregation, "some one put a button in the collection basket. I won't mention names; I will merely say that only one individual in the congregation could have done so, and after the service I shall expect the same member to replace the button with a coin."

After church a well-to-do but close-fisted individual sought an interview with the clergyman in the vestry.

"I—er," he began, "must apologize, sir, for the—er—button, which, I can assure you, was quite an accident. I happened to have the button in my coat pocket, together with a quarter, and took out the former by mistake. However, sir, here is the quarter."

"Thank you," said the clergyman, taking the quarter, and gravely handing him the button.

"By the way, sir," said the man, "I cannot understand how you could have known that it was I who—er—committed the—er—much-to-be-regretted mistake."

"I didn't know," replied the clergyman.

"Didn't know! But you said, sir, that only one individual in the congregation could have done it."

"Just so. You see, sir, it is scarcely possible that two individuals could have put one button in the basket; is it, not?" asked the clergyman, with a bland smile.

It was so much easier for the button contributor to say "good-day" than to answer this puzzling question that he made his bow at once.—*Western Christian Advocate.*

SHORTAGE IN WOOL PRODUCTION.

The following from the American Wool and Cotton Reporter seems to emphasize the value of opportunities at the present time for engaging in the wool and sheep business in the South:

"There will be an appreciable shortage * * * The decrease is caused by the extensive winter losses on the ranges and elsewhere, due to the severe storms and by the extended slaughtering of sheep in a number of sections * * * The president of the Montana Board of Sheep Commissioners estimates the winter losses in that State at 1,500,000 head, or about 10,000,000 pounds (of wool). Wyoming's losses are placed at 1,000,000 head, or about 7,500,000 pounds (of wool). The Utah clip may be 3,000,000 pounds short (indicating a loss of about 400,000 head). From Wash-

ington and Idaho there are reports of losses also."

If winter storms in the West, after decimating the flocks to the extent of 4,600,000 sheep, and curtailing the wool productions to the amount of 35,000,000 pounds, do not destroy the attractions of sheep husbandry in the colder sections there ought to be no trouble about making the business pay in the South, where these serious drawbacks do not exist.

No better demonstrations of the success of this business throughout the South are desired than those which are daily being brought to public attention, but the number of such examples should be vastly increased.

MARK TWAIN'S MEMORY.

I remember the day I was born. It was bitter cold. I came into the world without clothes. I was astonished. I spoke of it to my parents. They had no explanation when taken so suddenly, except the old excuse that it was customary. What was custom to me at that age? All you care then is how you look. I never felt so embarrassed in all my life.—*Mark Twain.*

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NOTE.—Whalebone is a richly colored bay horse of fine size, handsome and well formed. His disposition is perfect. He has sired Visitor, 2.26½, and other winners.

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Two cubic feet of sound, dry corn in the ear will make a bushel shelled. Then to determine the number of bushels in the crib, multiply the length by the breadth, and the product by the height of the corn in the corn crib; divide the product by two, and the result will be the number of bushels of shelled corn in the crib. To measure corn in the husk, fill a barrel full—the larger the barrel the better (say one that would hold four bushels of apples). Husk the corn and weigh it. Allow 70 pounds of corn in the ear when it is dry, for a bushel of shelled corn. Then the unhusked corn may be measured in the barrel, keeping tally of the barrels; multiply the number of barrels by the amount of corn which the first barrel contained. We know of no accurate rule for determining the number of cubic feet necessary to contain a bushel of corn with husks on. Of course you could determine the number of cubic feet in the barrel, or you could use a box of a given number of cubic feet, fill it with unhusked corn, husk it, and divide by 70 to get the number of bushels of shelled corn. You would then have a unit for determining in the crib the number of bushels of shelled corn. This might

be quite as accurate as the other method.

PERHAPS.

Bishop Potter is amusing his friends with an account of a recent visit he paid to a Sunday school class in New York, presided over by a staid young clergyman. The Bishop was asked to question the children, so that he might be edified by their knowledge of matters Biblical. As a starter, he said to a little girl whose face beamed with intelligence: "Who were the foolish virgins, my dear?" "Them as didn't get married!" was the prompt and emphatic answer.

Education's a good deal like eating—a fellow can't always tell which particular thing did him good, but he can usually tell which one did him harm. After a square meal of roast beef and vegetables, and mince pie and water-melons, you can't say just which ingredient is going into muscle, but you don't have to be very bright to figure out which one started the demand for pain-killer in your insides, or to guess next morning which one made you believe in a personal devil the night before. And so, while a fellow can't figure out to an ounce whether it's Latin or algebra or history or what

among the solids that is building him up in this place or that, he can go right along feeding them in and betting that they're not the things that turn his tongue fuzzy. It's down among the sweets, among his amusements and recreations, that he's going to find his stomach ache, and it's there that he wants to go slow and to pick and choose.

A solid ton of ice contains about 36 cubic feet. Multiply together the length, breadth and height of your ice house in feet (allowing for space occupied by sawdust), and divide the product by 36, and the result will be the number of tons capacity. Allowance for ice in bulk would be very variable, depending on the accuracy with which it is cut and piled. If it could be weighed beforehand in loads, like hay, a more exact result would be reached, but with some trouble. A leading ice company estimates a cubic foot of ice to weigh 56 pounds, providing it is all water ice. After the house is filled they measure up, and allow 45 cubic feet to the ton. Their ice is cut 22 by 32 inches, and a space of four inches is left on the long way. Shrinkage in the course of the season average 50 per cent. In a small house it might be 60 per cent.

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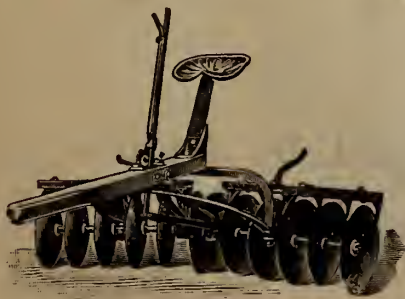
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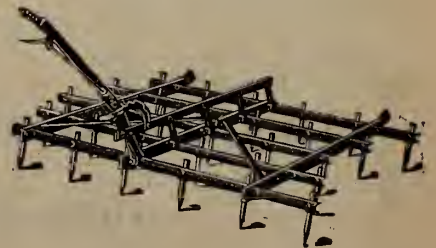


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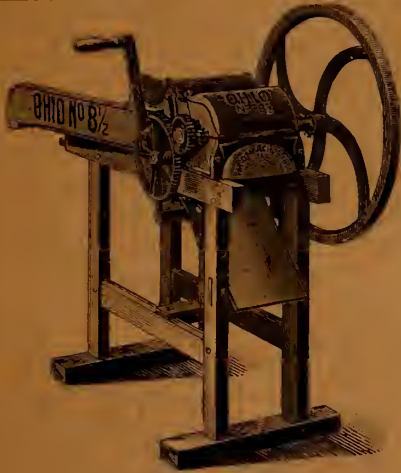
WHEN AN

ATTRACTIVE WOVEN WIRE FENCE

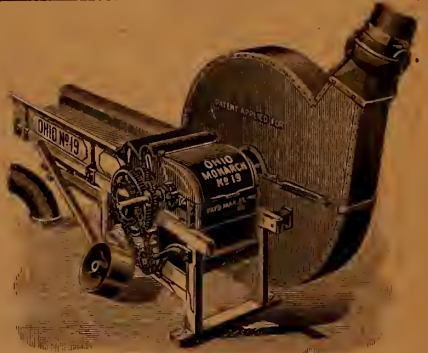
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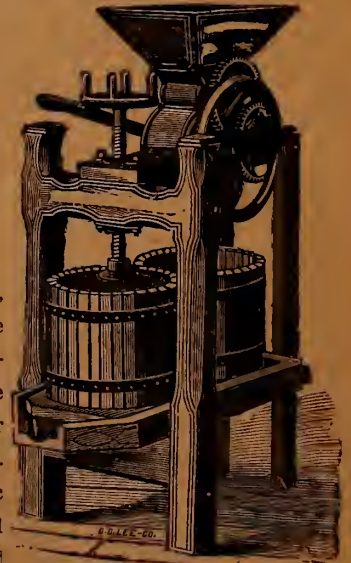
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