THE SOUTHERN PLANTER,

Devoted to Agriculture, Horticulture, and the Household Arts.

Agriculture is the nursing mother of the Arts.—*Xenophon.*

Tillage and Pasturage are the two breasts of the State.—*Sully.*

FRANK: G. RUFFIN, Editor. P. D. BERNARD, Proprietor.

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For the Southern Planter.

SCIENTIFIC AGRICULTURE.

BY PROFESSOR GILHAM.

NUMBER I.

(Continued from page 196.)

The operations of agriculture have for their object the productions of plants which are required as food, or are useful in the arts and industrial processes of man. It is, therefore, proper that we should commence our subject with a short account of the principal parts of which vegetables are composed, and by the instrumentality of which, under certain influences, all the phenomena of their existence are manifested. Let us first consider the

SEED.

The seed is the final result of vegetable life, and with few exceptions is the first point on which the attention of the farmer is bestowed, either to produce food for man and the domestic animals or to secure reproduction and multiplication of the species. The seed consists of a *nucleus*, or kernel, and an outer coating, or *integument*. The nucleus consists of the *embryo*, or substance destined to reproduce the plant from which it was derived, and of a substance consisting generally of starch and other nutritive matter, which usually surrounds the embryo, and is destined both for its protection and nourishment during the early stages of its growth. The embryo becomes a plant by the mere development of its parts; it is, in other words, a new individual; hence it is the most important part of the seed, and to its protection and support all the other parts are subservient. It possesses in a rudimentary or undeveloped state, all the essential organs of vegetation, namely, *root*, *stem* and *leaves*. In many cases these several parts are perfectly distinguishable in the seed: frequently, however, we can only observe an oblong body, cleft, or two lobed at one end; but in germination the undivided extremity elongates into a root, the two lobes at the opposite extremity expand into leaves, and the stem, or developed embryo, rises between them. The rudiments of the first pair of leaves are called *cotyledons;* the bud, which, if not actually visible in the seed, appears between the cotyledons when germination commences, is called the *plumule*, or rudiment of the stem, which is to expand into the stem and branches; and the portion below, which gives rise to the root, is named the *radicle*.

When the seed is gathered in a state of perfect maturity it is completely inert, the embryo being in a dormant state, and may be kept for any length of time without growing. Some seed after a few months lose their vitality altogether, and can never be made to grow, while a great many others may be kept for a number of years without injury, and some have been known to grow after having been kept for centuries.

The conditions necessary to germination are a free communication with the air, exposure to moisture, and a certain amount of heat, varying from fifty degrees to eighty degrees for the plants of temperate climates. Seeds are in the most favorable condition for germination in the spring and summer, when slightly covered with soil, which excludes light while it admits a free circulation of air, moistened by showers or by the water contained in the soil, and warmed by the rays of the sun. The water, which is slowly absorbed, softens all parts of the seed; it swells very considerably; under the influence of heat and air chemical changes commence in it, by which substances that before afforded protection to the embryo now supply it with nourishment; the embryo bursts its envelopes, the radicle or first rootlet is protruded, and taking a downward direction, fixes itself in the soil; while the other extremity elongates in the opposite direction, bringing the cotyledons, or seed leaves, and the plumule, bud, or top of the growing stem, to the surface, when the first leaves, which had their existence in the embryo, expand in the air. As soon as the roots and leaves are developed, each in their appropriate medium, the process of germination is completed; and the plant deriving through them its nourishment, continues, by the aid of light and a sufficient degree of warmth, to grow, producing roots which it sends down into the soil, and stems, branches and leaves, which it sends into the atmosphere. After a while flowers are produced, and these have for their object the production of fruit, the final term of which is the mature seed.

The phenomena of vegetation now cease; the whole of the organs of the annual plants wither and die; the work of reproduction and multiplication is completed, and thus begins and ends the life of the plants which are the usual subjects of the farmer's hopes and fears.

In biennial plants and trees the case stands differently. The plant vegetates as long as the temperature of the air is favorable, and there is sufficient moisture in the soil. During the winter the leaves fall, the plant is in a dormant state, and its growth is suspended; on the return of spring, however, there is a return of vitality, and it goes through the same round of increase in size in the stem and root, the production of leaves and flowers, the ripening of fruit, and the final suspension of its functions. In all this there is a close analogy to the original process of germination, and the after production of the perfect annual.

Let us now consider the plant a little more in detail. We have seen that whether we consider the annual which has an existence of but a few months, at most, or the tree which has been producing its annual supply of leaves, blossoms, fruit and seed, for centuries, both have the same end—the reproduction of seed; and consequently must be endowed with like organs, destined to perform the same functions. These organs are, 1st, the root; 2d, the stem, including the branches; 3d, the leaves, and 4th, the organs of *reproduction*, or those organs necessary to produce and perfect the fruit and seed. The first three are called organs of *vegetation*, or *nutrition*, and it will be remembered that they all exist in the seed in a rudimentary state. Botanists inform us that at a certain period in the growth of the plant a portion of the buds, instead of elongating into branches, are developed in the form of flowers, which contain the organs of reproduction, and that the nutriment which would otherwise go to the general increase of the plant, is expended in the production of fruit and seed.

The different parts of the plant when examined appear to be composed of still smaller parts, and when placed under the microscope, they are found to be made up entirely of a sort of net work, which divides the plant into numberless regular *cavities*, or *cells*, or of cells elongated into little tubes, or some other modification of the same cellular arrangement. When the vegetable fabric, or tissue, is composed of simple cells, it is called *cellular tissue;* when the walls of the cells are thickened and elongated into little tubes, it becomes *woody tissue*, or from its fibrous form, *woody fibre*. There are again other modifications of vegetable tissues which are called *vascular tissues*, or *vessels*, which are distributed throughout the plant.

OF THE ROOT.

The root is that portion of the plant, which avoiding the light, grows downwards, fixing the plant to the soil, and drawing nourishment from it. It gives off its branches without any regular order, and in most plants it has no pith. The root is generally conical, the smaller branches are always so, and they increase by the addition of new matter in successive external layers, so that the lower extremities, or points, are always the newest. Consequently the growing points are always composed of very delicate tissues; these absorb moisture with great avidity from the soil, and with it the necessary food for the plant. It is by these extremities, called *spongioles*, that all the moisture absorbed by the roots takes place. Hence the danger resulting from disturbing the plant during the season of active growth. So long as active vegetation goes on, the tender absorbent rootlets are renewed, but towards fall, when the plant has attained its growth for the season, the rootlets also cease to grow, the spongioles generally solidify, and their functions nearly cease. This indicates the season for transplanting, viz: in the fall, or in the early spring, before vegetation is resumed.

Roots, besides absorbing the crude food of the plant from the soil, also frequently serve as reservoirs of nourishment stored up for future use. The crude fluid, or sap, which roots absorb from the soil, is not, as such, employed in growth, but becomes changed by the aid of the vital principle, into starch, gum, sugar, &c.; and these substances, through the aid of the same vital principle, are employed in the formation of cells, woody fibre, &c. In the annual plant this food is expended as fast as it is prepared, in the formation of buds, leaves, branches, and finally, the fruit and seed; the production of the flowers and seed exhausts the plant greatly, and by the time the latter has ripened, the supply of nourishment is entirely consumed and the plant dies. Such plants always have branching fibrous roots, well adapted for absorption from the soil, but for no other purpose. But other plants have the power of accumulating in the tissues of their roots, a large amount of this prepared food for future use. This is the case with *biennials*, such as the carrot, beet and turnip. The tops of such plants die down in the fall; and when vegetation is resumed the following spring they make a rapid and vigorous growth, producing a large stem bearing flowers, fruit and seed, almost entirely at the expense of the previous year's accumulation. The store is soon exhausted, and the plant not producing a new supply, is likewise exhausted and perishes.

Substances which enter into the circulation of the plant through the roots, must be taken up in a state of solution. If solid substances could enter into the circulation by being simply held in a state of suspension in the water absorbed by the roots, the ashes of the plant would always be composed of those substances which are in the greatest quantity in the soil, and which are in the finest state of division; and specimens of the same plant growing on different soils would yield ashes

differing as much from each other as the soils in which they grew. It is found, however, that the composition of the ash of a plant is pretty nearly the same, no matter what may be the character of the soil, and that the addition of any insoluble matter to the soil does not produce any appreciable change in the composition of the ash. Roots also have, to a certain extent, the power of selecting those substances which are to enter into the circulation of the plant. If immersed into certain colored solutions the plant will soon be tinged all over from the absorption of the liquid by the root, while, if immersed in some others, no absorption will take place.

OF THE STEM.

The stem is that portion of the vegetable which, growing in an opposite direction to the root, seeks the light and exposes itself as much as possible to the air. It is composed of cells, woody fibre and vessels. At first it consists entirely of cellular tissue, a substance which ordinarily possesses much less strength than woody fibre; but as the stem grows, and in proportion as the leaves are developed, woody fibre, &c. are introduced, woven, as it were, into the original cellular tissue, giving it the necessary toughness and strength. Woody fibre is most abundant in shrubs and trees; it, however, enters more or less into the composition of the stems of all ordinary plants. The cellular part of the stem extends vertically to increase its length, and horizontally to give its thickness. Into this the woody fibre and vessels are introduced vertically, and establish a direct communication between the root and leaves.

The diversities in the internal arrangement of the stem result from the manner in which the fibre and vessels are introduced into the cellular tissue. These diversities are reducible to two plans. In one the woody fibre is deposited in *annual concentric layers*, between a central pith and an exterior bark; so that a cross section presents a series of concentric rings of wood surrounding the pith, and themselves surrounded by a bark which can be removed. This is the plan of the oak and of all the trees of cold climates. In the other, the woody system is not disposed in layers, but consists of separate bundles or threads of woody fibre, running through the cellular system without any apparent order, and presenting on the cross section a view of the divided ends of their threads in the form of dots, diffused through the whole. The appearance of such a stem may be exemplified in the cross section of the asparagus, or in the stalk of Indian corn. The plant in the first case increasing by an annual outer layer is called an *outside grower*, or *exogenous plant*, while in the second case, the new woody matter being deposited within the old, pushing the latter outwards, is called an *inside grower*, or *endogenous* plant. All plants of the grass tribe, including wheat, rye, &c. are inside growers.

The stems of all outside growers are provided with an outer coating, or bark, which is divided into the *liber*, or inner bark, the *outer* bark, and the *epidermis*, or skin, which surrounds the whole. The inner bark is composed of fibres and vessels, and like the stem, communicates directly between the root and leaves. Inside growers have no distinct bark, at least none that can be separated from the stem. We have seen that the spongioles absorb the crude sap from the soil, this ascends through the little vessels or tubes of the stem until it reaches the leaves, when it is spread out over a large surface, and exposed to the action of the air, by which it is modified in character, and fitted to nourish the plant. Then the sap commences its return to the roots, depositing the material for cells, fibre, &c. in its descent. In the trees and shrubs of our climate, the sap when it quits the leaves, passes down the inner bark, depositing its layer of wood just under the bark. When the sap first enters the stem it is very thin, as it ascends it acquires more consistency, and on its descent it becomes quite thick.

OF THE LEAVES.

The leaf is an apparatus in which the sap is spread over a large surface, and freely exposed to the air and light. The leaf is ordinarily regarded as an extension of the bark, expanded into thin lamina, and stiffened by tough woody fibres, which are connected with the bark and wood, and which form its frame work, or *veins*. The veins while they stiffen the leaf, serve to carry the sap to all its parts.

Leaves are generally developed in such a way as to present one surface to the ground, and the other to the sky; these two surfaces differ very materially in the offices they perform in the vegetable economy, and in their structure there is a corresponding difference. The upper surface presents a compact, glazed appearance, while the lower is much more loosely arranged. The close texture of the upper surface serves as a check to the excessive evaporation of the sap that would otherwise take place when the leaf is exposed to the heat of the sun, while the loose, open texture of the lower surface, permits the free access of air to every part of the leaf. Evaporation from the surface of the leaf is necessary, as it is the only means by which its very dilute food can be concentrated; and some arrangement is required by which a sufficient evaporation may take place when the plant is freely supplied with moisture, but restrain it when the supply is limited—such a provision exists in the leaves. The surface of the leaf is generally sufficiently compact to prevent the escape of much moisture through its membranes; but the exhalation takes place through innumerable little pores, or slits, distributed over its surface, called *stomata*, (mouths,) or *breathing pores*. Stomata open directly into hollow chambers, or cavities, which abound

in the body of the leaf, and establish a free communication between the interior of the leaf and the external air. These little pores are so formed that, when the leaf is in a moist atmosphere, and freely supplied with moisture, they expand and allow rapid evaporation to take place through them; but when the supply of moisture fails, they contract, and, by closing up, check the drain before it injures the plant. The number of breathing pores varies in different plants from about 800, to 17,000 on a square inch; as a general thing, there are a great many more in the under than in the upper surface of the leaves, their structure being too delicate for the direct sunlight. This explains why leaves are so apt to perish when artificially reversed.

OF THE FLOWER.

So far as known, the sole office of flowers and fruit in vegetables, is the production of seed; hence they are called the organs of reproduction.

It is found that the flower and fruit draw largely upon the nourishment of the plant, hence a due accumulation of food is requisite to sustain it. Annuals flower in a few weeks or months after they come from the seed, and having but little nourishment stored up, are destroyed in the process. Biennials flower after a longer period, rapidly exhausting the stock stored up during the previous summer's growth, and then perish; while shrubs and trees do not commence flowering until they have attained sufficient strength to endure it. The exhaustion resulting from flowering is sometimes shown by fruit trees, which after producing a very heavy crop, fail to bear at all the following year.

The organs of the flower are of two sorts: 1st, the leaves, or envelopes, called *protecting organs;* and 2d, the *essential* organs, or those immediately necessary for the production of fruit and seed.

The protecting organs comprise the outer green leaves called the *calyx*, and the showy part of the flower named the *corolla*. The essential organs are inclosed by them, and are of two kinds. The first are the *stamens*. A stamen consists of a column or stalk, bearing upon its summit a little cellular arrangement filled with a powder called *pollen*. Within the stamens and occupying the centre of the flower, are the seed-bearing organs, called pistils, and it is to the protection and perfection of these, that all the other parts of the flower are in some way subservient. At the bottom or base of the pistil, is a little sack or receptacle, containing a number of small bodies called *ovules*, or rudiments of the future seed.

The little cells of the stamen containing the pollen grains, contract by drying, and at the proper time, burst and throw them out. These falling upon and penetrating the loose tissue of the extremities of the pistil, pass down its interior, and finally reach the little cavity which contains the undeveloped seed. Then the process of fertilization is completed; the outer portions of the flower wither or fall off, the base of the pistil begins to enlarge, the incipient embryo makes its appearance, the fruit and seed assume their proper form, and in due time are perfectly matured.

In the above I have given a sort of general outline applicable to all flowering plants, without attempting any description of the differences which are found to exist in the seed, flowers, or other parts of different plants. In closing, however, it may not be amiss to advert to one or two specific differences which are familiar to all.

The embryo, which is generally within the seed, surrounded by the starch, &c. is exterior to these substances in all of the grains, as wheat, rye, &c.; and the cotyledon instead of rising above the ground, remains below, supplying the embryo with nourishment, until the first true leaves are formed. In some plants there is a suppression of one or the other of the organs of reproduction in the flower; in one flower the pistils will be absent, in another the stamens. The seed cannot be formed from either if taken by itself, but if both be present, the process of impregnation will be the same as if both pistils and stamens existed in the same flower. This difference in flowers has led to the expressions *pistillate* and *staminate*, to distinguish them. It frequently happens that one specimen of a plant produces a pistillate and another a staminate flower, as in hemp, certain varieties of the strawberry, &c. Finally the stamens and pistils are developed in different parts of the same plant, as in the Indian corn, where the *tassel* contains the stamens, and these throwing their pollen grains upon the *silk*, or pistils, the grains of corn are soon developed.

NOTE.—I am indebted to Gray's Botanical Text Book for most of the matter contained in the above article. I would recommend that work to all who may desire to become familiar with the principles of vegetable physiology.

For the Southern Planter.

DEEP PLOUGHING.

Mr. Editor,—In the June number of your paper, I was pleased to see a report, read before the Powhatan Agricultural Club by Mr. Harris, and ordered to be published in your paper. I read that paper with more pleasure and attention, because having the pleasure of his acquaintance, I believe him entirely adequate to the discussion of any subject appertaining to agriculture. In that report, he mentions that the advantages of deep ploughing have never (that he knows) been subjected to experiment, and regrets, (if I draw the right inference,) the fact of such experiment being more or less hindered by prejudice and pre-

conceived opinions. If, in order to disabuse the minds of some, and clear up the doubts of others, I can succeed by offering one suggestion, I will consider myself paid the trouble of writing this article. Believing as I do, that the best way to sway the American people is by an appeal to their reason, and not by flaming inuendoes against their folly, I shall briefly state a few reasons which argue in favor of deep, thorough ploughing. We will first premise what observation and facts have clearly established, viz: that plants receive their support from the soil, the atmosphere and the clouds. This being the fact, it clearly follows that those conditions which tend to bring a plant in contact with the largest amount of air, soil and water, are the conditions best calculated to insure its quick, perfect and full maturity. If we shall prove that deep ploughing furnishes those conditions to a greater extent than shallow ploughing, then its superiority will be established, and the most cogent reason given for its speedy performance. In order that our position may be fully understood, and our remarks rightly appreciated, we will state in what consists the main elements of a plant, and which of those elements are derived from each of the above mentioned sources. The main bulk of a plant can by heat be resolved into carbon, hydrogen and oxygen; now what portion of this is derived from the atmosphere? It is composed of oxygen and nitrogen mainly, together with hydrogen and carbonic gas. The carbonic gas is absorbed directly by the plant; and being composed of carbon and oxygen, is decomposed by it, and thus two of its constituents are furnished. This gas is largely absorbed by water, and thus is furnished another of the modes by which it is received into the substance of the plant, being carried up in solution with the sap. We have always believed that the nitrogen of the atmosphere serves more as a vehicle for the conveyance of oxygen, carbon and hydrogen, than for the direct nutriment of the plant; and our belief is founded on this fact: that while nitrogenous manures plainly increase the luxuriance of all plants, nitrogen is found by analysis, only in the cabbage, clover and some few other plants. Then what is its use? We believe, (we repeat,) that it is only a vehicle for the transmission of other substances. When in the nascent state, (that is when just emerging from previous combination,) it unites with oxygen and hydrogen, forming with the one nitric acid, with the other ammonia; both of these are soluble in water, and both have a strong tendency to combine, forming nitrate of ammonia, a soluble salt; this contains five parts of oxygen, three of hydrogen and two of nitrogen; the two former are assimilated by the plant, the last is set free, its chemical affinity being destroyed by the superior vital power of the plant, and it is set free in the nascent state, the most favorable one for recombination. We thus find that the atmosphere furnishes three of the most constant constituents of the plant; and a great deal of the above mentioned absorption is carried on through the roots. Now, any system which increases the number of those roots, and the free access of air laden with such precious food, must be beneficial. Deep ploughing, by doing away with the mechanical obstacles to the free spread of the plant's roots, meets the first condition; by rendering the soil permeable, it subserves the latter, ergo deep ploughing must be beneficial. Again, a plant contains besides the above, several salts, the most constant of which is carbonate of potash; this substance exists in the soil as silicate of potash; as such it is insoluble; by contact with the air it gives up silicic acid, absorbing carbonic acid from the air, and thus becoming the carbonate of potash, a soluble salt, found in the ash of all plants, (except marine.) Now the silicate of potash exists in the subsoil as well as the surface soil, probably more abundantly in the one than the other, since it has there been less exposed to the atmosphere. Now if we can break up the subsoil so as to allow a sufficient amount of atmosphere to penetrate to this substance, converting it from a silicate to a carbonate, so as to allow the rains to dissolve the carbonate so formed, and the roots of the plant to reach it thus soluted, we shall have thus obtained a great desideratum. Since deep ploughing obtains these three conditions, he who wishes this important constituent for his crops should be quick in availing himself of its advantages. The soil contains other salts, which analysis detects in plants. Now all of these are capable of being soluted, or so intimately mixed with water as to observe all the laws of a solution. The rains falling for a long period on the soil have carried, in the form of solution or mixture, a vast amount of these salts into the subsoil, where to all practical purposes, they are lost, since the roots and atmosphere are forbid entrance to them—but put in your subsoil plough, break up and remove this obstacle to their ready entrance, unlock this hidden storehouse, and your augmented crops will amply repay your trouble. Again, a soil too wet or too dry is barren; in the one case because a superabundance of water prevents that ready ingress of warmth and air, on which the well being of plants depends—such soils are often called sour, we presume from their favoring the generation of acid. If too dry, that solution of its food is denied the plant, as well as that amount of water necessary for its luxuriance. Now both of these conditions can be obviated: if too wet, break up that hard pan stratum which prevents the water from diffusing, and by thus deepening your soil you allow water that was confined to six inches, to be diffused over fifteen, when you will have little cause to complain of over-wet; nor infer from this that you will render your land too dry, for remember plants are fed in three ways, with water from the clouds, from air and by capillary attraction. When you plough your land deep,

you allow the rains which formerly saturated six inches, to be diffused through fifteen inches of soil. A large portion of this water is absorbed by the clay of the soil, and held fixed until such affinity is destroyed by the vital power of the plant. Now supposing you to take land formerly broken six inches, and break it eighteen, you, (admitting that the same amount of clay exists for every inch,) insure the absorption of three gallons of water where only one was absorbed before: and while you do this, you allow as fair ingress of air and the plant's roots to these eighteen inches, as existed before to the six; and since air and water both avail the growth of a plant, that system, which furnishes three times the amount formerly furnished, while it increases the ability of the plant to avail itself of that amount by increasing the depth and surface of its roots, must be superior to that plan which only gives one-third the above amount. Since deep ploughing gives the three gallons and shallow the one, the former has three to one as odds in its favor. We said that plants were fed by capillary attraction—now what is this? it is that power of attraction which the sides of a tube exert over a fluid, causing it to ascend the tube, (this obtains only in very small tubes.) Now the soil of all countries is full of these minute tubes, and water beneath the surface has a tendency to ascend to the surface in virtue of this law—meeting with a hard pan subsoil, it is hindered from farther rising, and there remains, or is absorbed by the surrounding clay: in either case it is lost to the thirsty plants; but break that crust and it rises in reach of the plants' roots, or if it is absorbed, the roots entering its absorbent can apply it to their wants. Lastly, clay has a strong affinity for ammonia. If by subsoil ploughing, we can furnish a large amount of clay to act upon the ammonia of the atmosphere and the rain, we thus obtain and retain a large amount of a highly nutritious substance in a situation the best suited to afford its nutriment to the plant. Much more I might add, but forbear to trespass on your columns farther. With kind wishes for the success of your paper, I remain,

Respectfully yours,

William H. Henning.

Richmond, July 5th, 1852.

Catching Flies.—The Prairie Farmer tells how they catch flies in England. It is done by "fly-papers," and the process is called "fly torture," on account of the manner in which the insects have their fect fastened in the "*stocks*." The article used is rosin and sweet oil mixed, and spread over the surface of a newspaper, and then slightly sprinkled with sugar dust. The moment the fly puts down his foot he is fast. They are thus caught with great rapidity. The "torture" appears to consist in a want of liberty to go where they please.

For the Southern Planter.

ENCLOSURE SYSTEM OF VIRGINIA.

ADDRESS OF THE FARMERS' CLUB OF NOTTOWAY TO THE FARMERS OF VIRGINIA.

In addressing you, fellow-farmers of Virginia, on the evils of our present fence law or enclosure system, we would be candid as well as earnest. The subject is one of great interest to every landholder. Should we appear too enthusiastic or zealous, you will bear with us, when we assure you that we speak from hard experience, while we are endeavoring to exhibit the weighty burden which the present law imposes on us. Should we be so fortunate as to have your concurrence in opinion, we would invoke your hearty co-operation in bringing about a repeal of the law. We have more than once petitioned our Legislature, but so far to no purpose—we now appeal to the fountain head of power for redress. Our legislators in this matter, as in some others, are waiting to follow in the wake, rather than, like men who feel and know the wants of their constituents, boldly lead in the advance. Should any of you differ with us, we ask your unprejudiced and dispassionate consideration of our views, and then should you not see cause to alter your opinions, we shall be ready and happy to receive and consider in like manner your views on the other side. We abhor the idea of trespassing on the rights of any one, and should we become convinced that a majority of our fellow-farmers do not agree with us in opinion, we will bow with due deference and respect to the right of the majority. We know we are advocating a change in a system which has prevailed from the earliest period of our State's history, and we are fully aware how difficult it will prove to effect it, but under this great disadvantage and fully sensible of the magnitude of our undertaking, we still feel upheld by a consciousness of proper intention, that we are advocating a cause of immense advantage to the farming interest, that we are seeking the good of all and the injury of none—that we have justice and right on our side; and

"Thrice armed are they who have their quarrel just."

With this pleasing assurance we address ourselves to the task before us.

The present fence law of Virginia requires every man to enclose his land with a fence five feet high, and of sufficient closeness to exclude all animals likely to injure crops, in order that his fields may not be molested. It is well known that in the greater portion of Eastern Virginia, at least, the system is such, and the arable lands lie in such a manner, that in enclosing the cultivated portions a great deal of other land is included. So far as our observation extends, the uncultivated

portions exceed in amount the cultivated.—[4 days to put the materials in place, and 8

(Supplement to the Southern Planter.)

DR. VALENTINE'S RECIPE

FOR

MAKING ARTIFICIAL GUANO.

No. 1.	Dry Peat,*	20	bushels.
" 2.	Wood Ashes,	3	"
" 3.	Fine Bone Dust,	3	"
" 4.	Calcined Plaster,	3	"
" 5.	Nitrate of Soda,	40	pounds.
" 6.	Sal Ammoniac,	22	"
" 7.	Carb. Ammonia,	11	"
" 8.	Sulph: Sodae,	20	"
" 9.	" Magnesia,	10	"
" 10.	Common Salt,	10	"

If Peat cannot be obtained, use garden mould, or clean virgin soil instead.

DIRECTIONS FOR MIXING.

Mix Nos. 1, 2, 3, together—mix Nos. 5, 6, 7, 8, 9, 10, in four or five pails of water, or enough to dissolve the ingredients. When dissolved, add the liquid to the mixture, (1, 2, 3,) and mix as in making mortar. When thoroughly mixed, add No. 4, (the calcined plaster,) which will absorb the liquid and bring the whole to a dry state. Mix under cover in a dry place—pack so as to exclude air—observe the proportions in making small or large quantities. The above receipt will make one ton, which will manure seven and a half acres of land.

Having furnished the above to a number of farmers who have tested its qualities—many thinking it equal to natural Guano—the subscribers have made arrangements to furnish any quantity during this season, and will sell the ingredients exclusive of the Peat, Wood Ashes, Plaster and Salt, (articles on every farm,) at the low price of $10 per ton. One sugar hogshead will hold ingredients enough for five tons. All orders will be carefully and promptly executed, and sent to any part of the State.

ROBERT R. DUVAL & BRO.

Chemists and Druggists, under the American Hotel, Richmond, Va.

you allow the rains which formerly saturated six inches, to be diffused through fifteen inches. | For the Southern Planter.

portions exceed in amount the cultivated.—Under these circumstances it will be found necessary generally for the farmer to enclose the whole or greater part of his farm. This is a source of a vast expenditure in time, timber and labor. To show this, we will call your attention to the following report, drawn up by three of our most practical members, who have learned by experience the truth of the facts they exhibit. We feel confident you will not find it exaggerated to suit the case, but if anything too favorable to the present system.

REPORT.

The Committee appointed by the Farmers' Club of Nottoway to estimate and report the comparative cost of the present system of enclosure with one forbidding the roaming of stock at large, report that they have no data founded upon their own experience, of the cost of the proposed new system, but we think it will be manifest to every man that under a law requiring every one to enclose his own stock, instead of the existing law, which requires every one to guard himself against the stock of the whole country, a kind of fence might be adopted which, at most, would require but one-half of the amount of timber, and but one-half the amount of labor, in providing materials for fencing. Your committee have adopted as a basis of their estimate as applied to the State at large, what they believe to be a fair estimate of the fencing required on a farm of one hundred acres. We estimate that it will require to enclose one hundred acres of land lying in the most convenient form (a square) 2800 yards; the necessary dividing fences would amount to one-half or 1400 yards, making 4200 yards of fencing necessary for enclosing a farm of 100 acres. At 2½ yards to the panel this will give 1680 panels, which at 13 rails to the panel, make 21,840 rails, equivalent to the work of one hand for 218 days, or 8 months and 6 days. One-third of this has to be repaired annually, say 560 panels, which at 4 rails to the panel, calls for 2240 rails or 22 days' work for one hand. We estimate that it will take the same hand as long to haul and put up the rails, as it did to maul them, making the whole time 44 days. To maul, haul and put up the rails annually required on such a farm, allowing the day's labor to be worth 30 cents, would be worth about $18, including finding, &c. The same farm enclosed with post and rail fence, at 10 feet to the panel, will require 1260 panels, which at 7 rails to the panel, require 8820 rails, equivalent to the work of one hand for 88 days. One-third of 1260, or 420 panels would require repair annually, which at 2 rails to the panel, would make 840 rails, equivalent to the work of one hand for 8 days. We estimate that one hand can put up 10 panels of this fence per day. At this rate it will require 126 days to post and rail in such a farm and 14 days annually to repair it and 4 days to put the materials in place, and 8 days to get materials, making 26 days; at same per day the whole cost would be $9.

We further estimate that on such a farm, where enclosing crops could be dispensed with, that 10 acres would be sufficient permanent pasture, for the stock on the farm, to enclose which, with the usual fence, would require 908 yards or 362 panels of fence at 2½ yards to the panel, which at 13 rails to the panel would require 4700 rails, equivalent to the work of one hand for 47 days; one-third of this or 120 panels to be repaired annually at 4 rails to the panel, requires 480 rails, equivalent to the work of one hand 4 days, and to put in place and put up 4 days more, making 8 days annually to repair, estimated at $3. The result of our estimate is, that if one hand cultivate such a farm, under the existing system, he would pay in a tax on his labor for fencing of 18 per cent. with common fence, with post and rail fence 9 per cent. and under a system of enclosing stock and not crops, he would pay 3 per cent. If 100 acres be the average size of the farms of the State, and the returns of the census would seem to show that to be about the average under the present system, the farmers of Virginia have a capital of $22,411,200 invested in perishable fences. The post and rail system would require but a capital of $11,205,600, and a system of closing stock and not crops but $3,735,200.

RECAPITULATION.

4200 yards of worm fence—1680 panels at 13 rails to the panel gives 21,840 rails.	
218 days' work mauling at 30 cents per day, gives - - -	$65 40
109 days' putting up at 30 cts. per day,	32 70
109 days' hauling at 75 cents per day,	81 74
Expense of enclosing 100 acres under the present system, - -	$179 84
560 panels of annual repair, 4 rails to panel, 2240 rails.	
22 days' work mauling at 30 cents,	$6 60
11 days' putting up at 30 cents, -	3 30
11 days' hauling at 75 cents, -	8 25
Amount of annual expense under present system, - - -	$18 15
4200 yards post and rail fence, 10 feet to panel—1260 panels, 7 rails to the panel—8820 rails, mauling which, 88 days work at 30 cents, - - - -	$26 40
44 days' hauling, at 75 cents, -	33 00
126 days' putting up, at 30 cents,	37 80
Expense for post and rail for same farm,	$97 20
420 panels, 2 rails to the panel, 840 rails, mauling.	
8 days' work, at 30 cents, -	$2 40
4 days' hauling, at 75 cents, -	3 00
14 days putting up, at 30 cents, -	4 20
Annual expense of post and rail fence,	$9 60

10 acres for pasture require 908 yards of fence or 362 panels, at 13 rails to the panel, 4700 rails.

47 days' work, at 30 cents, -	$14 10
23½ days' putting up, at 30 cents,	7 05
23½ days' hauling, at 75 cents, -	17 62
Expense of enclosing 10 acres permanent pasture, - - -	$38 77
One-third of 362 panels or 120 panels, at 4 rails to panel—480 rails.	
4 days' work, at 30 cents, -	1 20
2 days' putting up, at 30 cents, -	60
2 days' hauling, at 75 cents, -	1 50
Amount of annual expense of permanent pasture, - - -	$3 30

W. R. Bland,
G. A. Cralle, } *Committee.*
T. F. Epes,

After you have given the above your careful consideration, we would further call your attention to the inconveniences of the present system, aside from its expensiveness. The most of men who own farms of usual size, have roads or streams running through them. Wherever a fence crosses a stream there must be a water gate. This, with the whole line of fence on the bottom land is liable to be washed away by freshets, and oftener than otherwise these occur at the busiest season, when crops suffer most from depredation. What redress is there when, from this cause wholly unavoidable on his part, a man suffers by having his crop destroyed? How can the loss of time necessary to repair damages be redeemed? For this emergency the law makes no provision. Again: one or more roads intersect a man's land. Up and down these the cattle of the whole country are permitted to roam. Out of this number, nine times in ten, there is one who scorns all impediments when an inviting field is before him, and in his track the whole herd may follow. Is it enough to say that in this case, if your fence was a lawful one, you have a right to kill or seize as your own? So you have, if there is proof positive that such was the case, but if not, you dare not do it, lest a lawsuit befal you, in which the burden of proof will rest with you, showing that the fence was knocked down by the animal you have killed. Those who are peaceably disposed will, and do suffer many such annoyances rather than kill or go to law.

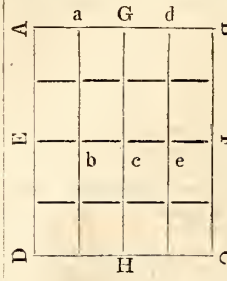
But there are bad neighbors in many communities—men who will stoop to mean and low acts. Your fences may be so strong and high that no common animal could disturb or overleap them. Yet here the law can be easily evaded. You have fields waving with the yellow harvest, unprotected save by these fences. An unprincipled neighbor may secretly turn his whole stock in on them and cause a destruction before the fact is known, more than equivalent to the value of the stock. Is there any means of redress here? This may be done by a slave, with or without his master's consent, and the fact may be known, still the injured party has no means of redress, for the law makes no provision in this case. Does it not on this account tempt men to do what otherwise they would fear to do? It may be said that this does not often happen. It may not—but it has happened and will continue to occur, until mankind shall be regenerated, or until the law throws around the just and honest the ægis of its protection, and overawes the unprincipled by the penalties of its violation.

By the requirements of this law every man is not only compelled to protect his own crops from the intrusion of his own stock, (not an easy task at all times,) but has also to guard against the stock of all his surrounding neighbors—and it may be against the stock of as many more if he have the misfortune to have a road running through his land. For instance, a man's farm may be bounded by the farms of six others. He is liable to intrusion from his own and stock of all these, some of whom may have twice or twenty times as many as he. How can he escape from these besetting him on all sides? With his own and those of his neighbors, he has seven herds to contend against, and each of his neighbors is as bad off as he, or worse. What is one man's case in this respect is the case in a greater or less degree of every one. Thus, in the State of Virginia, taking this case as a standard, there is seven times the liability of crops to depredation, than there would be were the law so framed as to make it the duty of every man to enclose his own stock. Under this law, there would, in all probability, be seven times less destroyed than now is, and we believe if the whole amount of this could be ascertained, it would be sufficient to enhance the products of the State a handsome per centage.

But, aside from the evils, just mentioned, the present fence law is the cause of nine-tenths of the neighborhood feuds existing.—We could cite your attention to communities composed of honest, correct and thriving farmers, who would live in peace and friendship, were it not for the annoyances occurring constantly under the present system. Those who have had promising crops destroyed or injured, by the depredation of stock, know how hard it is to control the outbursts of passions, when excited by these annoyances, and how aptly coldness, and sometimes enmity, creep in between men, formerly warm friends, who do not really intend to do wrong, but who, from the deficiencies of the present system, and the tenfold greater burdens imposed thereby, fail to conform strictly to the right course. Laws were framed for the benefit of mankind, but we believe this one to be the source of more neighborhood disturbances than all other causes combined, and were there no other argument against it but this, it would be a sufficient cause for its repeal.

There is, we are happy to know, a new spirit beginning to animate the farmers of Virginia. They are seeking every method of improving their lands; in fact, having little original virgin soil, they are compelled to resort to an improving system, or emigrate. The improvement of the soil, then, becomes the foundation of good and successful farming, and to encourage it, every effort of those who legislate for us, should be made. To this end, every impediment in the way of the farmer should be removed, and every incentive to exertion held out. The report above given, shows that a very large per centage of the farmer's time, timber and labor, are expended on fences, which soon decay, and from which he receives no return, serving as they do only to keep out stock from the field. Suppose all this time and labor were expended by the farmer on the improvement of his land—what a different return would he get? How much more land would he yearly reclaim, and how much valuable timber would he save? If this time could be devoted to collecting materials for manure, draining and reclaiming, a short time only would elapse, before a change would be manifest. Now, a man has to reserve a large portion of wood-land to supply materials for fencing, which lies perfectly idle. Were the law altered, no cause would exist for this, and it might be cultivated and be made to pay. Under this law, a proper rotation of crops is seriously interfered with, scarcely less important to the farmer than making manure, in the improvement and preservation of his land. The five-field rotation, so productive and so improving to land, will be entered into with great difficulty and not without some sacrifices, as long as this law exists. Another branch of husbandry of great importance, viz: stock-raising, is seriously interfered with by this law. There is at present little or no chance of our stock becoming generally and permanently improved, so long as all kinds, especially the most worthless, are permitted to roam at large.

It is a well established fact, that as a country becomes highly improved, the farms are reduced in size, and that small farms reciprocally conduce to rapid and perfect improvement. Manure cannot be hauled to advantage over a certain distance, nor can the accumulation of it be so readily attended to at a distance as it can be near the homestead. In the most improved sections of this and other States, farms seldom contain more than 500 acres. This being true, many farms in Eastern Virginia must be reduced in size in order that they may become as rich and productive as they should be. But, by this reduction the amount of fencing would be so much increased that some sections would be deprived entirely of timber. By this subdivision and increased amount of fencing, the amount of labor would be also increased to put up and keep in repair the fencing. To this important fact we would call the particular attention of those owning small farms and those wishing to divide their farms. When a farm lying in the most convenient practicable form—a square—is divided into two farms, the fencing required for the two will be greatly increased. To illustrate this, let us take the following figure. Suppose ABCD to be 16



acres, in the form of a square. To enclose this will require (supposing an acre to be 70 yards square) 280 yards on each side, or 1120 yards. Now suppose this land be divided into 2 equal parts, represented by ABEF and EFDC. ABEF will now require 280 yards on two sides and 140 on the other two, making 840, instead of the half of 1120 (560). But a farm has to be divided by cross fences. Suppose the whole 16 acres, ABCD to be divided into four fields, of equal size, the dividing fences represented by EF, GH. Then the land would require the enclosure fence, 1120 yards, and the dividing fences, EF and GH, each 280 yards; in all 1680 yards. Now, dividing the farm as before, there would be ABEF, 840 yards, and the four fields divided by fences at a b, G c and d e, each 140 yards, making 420 yards—which added to 840 would make 1260 yards, necessary to enclose and divide 8 acres. Double this amount, 2520 yards, would be necessary for the two farms, instead of 1680—or it would require 840 yards more, equal to one-fourth of the whole fencing. So that, if a man divide his farm into two, and lay each off as before, it will require one-fourth more fencing for the two than for one. Again: suppose EAGc to be a square mile of land, or 640 acres. To enclose this will require 4 miles of fencing. Many would suppose that it would require four times as much for four square miles of land, or 2560 acres, in the form of a square; but it does not; for, by referring to the figure, the four square miles represented by ABCD only require 8 miles of fencing. So that if a man wish to divide a farm of 2560 acres into four farms, he will have twice as much fencing for the four farms as he would have for the whole in one farm. Now, suppose there are two farmers, one owning 2560 acres, and the other 640. Suppose that they have hands and timber in proportion to land. If one own 24 hands, the other will own 6. The first will have 8 miles of fencing to make and keep in order, to enclose his land; each hand will then have 8-24 or 1-3 of a mile of fencing; the other, 4 miles, and each hand 4-6 or 2-3 of a mile of fencing—just double what the other has. Again: say one-fourth of their land is in timber; one will have 640 acres of timber land to keep up 8 miles of fencing, or 80 acres to the mile; the other will have 160 acres of timber land to keep up

4 miles of fencing, or 40 acres to the mile. We hope this will serve to show what a great disproportion exists in enclosing large and small farms, and what great burdens and disadvantages weigh upon the small farmer. Nor is this the only disadvantage a small farmer has to bear. When a farmer, owning four times as many cattle, lives adjoining him, his small field will suffer greatly more when his cattle break into his small field than when his few cattle get into the field of his wealthier neighbor. So long as small farms are liable to these objections and disadvantages—which must ever be the case until the present law is abolished—they can never become common, or as profitable as they otherwise would be; and, therefore, the State can never become as highly improved as it should be, nor support as many to the square mile as it could do under favorable circumstances. On this account the natural increase of the farming community will be driven into other States or into other professions, as has been the case for many years past. This will account for the many large farms, which now contain in many instances several small farms, whose former owners have emigrated to the West or South, where land is cheaper and where small farmers do not labor under so many disadvantages.

Thus have we given some of the main objections to the present enclosure system, and disadvantages resulting therefrom. We propose now briefly to consider what change we think should be made in the law, and the advantages which would thence be derived.—What we want then, is, that the law be so altered as to compel every man to enclose his own stock. With this law, a farmer will have to defend himself only against his own stock; so that if he now have ten herd of cattle to contend against, he will then have ten times less annoyance and expense than he now has. The large and small farmer would then stand on equal ground. If one acre will support one cow, five acres will support five, and one hundred acres will support one hundred. It would doubtless put some to inconvenience, but it cannot bear unequally or unjustly on any one. Some who have stock and no land might be inconvenienced, but they ought not to complain, for we leave it to their judgments to say which is most just, that their few cattle should put the whole community to trouble and expense, or the whole community should have their rights respected, when simple justice requires it. If a man has a right to subsist his cattle on another's land without leave or compensation, why has he not a right to subsist his negroes? If he have a right to graze another man's land and thus deprive it of its growth, why should he not have the right to remove materials from it for making manure, or the wood for fire or other purposes? The present law bears very hard on the landholder. A man may have any amount invested in land, and unless he enclose and protect it, it is at the mercy of every intruder. Our present Constitution requires that all property shall be taxed uniformly, why then should not the law protect all property uniformly? which this does not. A man's cattle may be found on another's premises destroying property, but unless the injured man can prove his enclosures perfect and that those cattle did overleap or knock down his enclosures, he dare not kill or injure them. Moreover the landholder has to expend 18 per cent. of his labor and timber in protecting his property, worth one thousand dollars, from stock not worth twenty dollars. We appeal to every man of reason and justice to say if this is equal protection; if this, in other words, is equal taxation? We know custom has long sanctioned this gross injustice, but that renders it not less oppressive. As it now is, twenty men sometimes have to go to the immense expense of enclosing their whole farms, to keep out the cattle of one man. Would it not be more like fair and even justice for this man to be compelled to take care of his own stock, rather than thus put twenty to the expense of fencing, costing each one twice as much as his cattle are worth? Land is not so high as to prevent all who own cattle from securing a sufficient amount to subsist them.

There are some who say we have our farms fenced, we do not care for a new law—the new law will not force you to pull down your fences—you can pursue the same course as now, if you prefer to do so, and no one can object, but all your fencing will not be necessary. A standing pasture, embracing your wood and waste land or one-fourth, at least, of your farm, enclosed, will amply subsist as many cattle as you ought to keep. Good cattle well kept, will be more valuable than mean cattle which gain a scanty subsistence on the commons. The improved breeds of stock might, under the proposed law, be introduced with profit, which cannot now be done to advantage always. But the main advantage of the new law would be the rapid and speedy improvement of land, and with this, other improvements will follow as a natural consequence. Under the proposed law, manure-making might be reduced to a regular system, and well nigh the whole winter devoted to it. If this could be done, we confidently believe that in a few years our State would assume almost a new aspect. Our railroads and rivers would groan under their accumulated burdens, and in the greatly increased prosperity of the farmer all other professions and trades would share. The mechanic, particularly, whose prosperity ebbs and flows with the farmer's, would soon forget the deprivation of the scanty commons and rejoice in high prices and abundance of work. The most advantageous system of rotation could then be adopted and the resources of our soil developed. With improved lands and increased production, the surplus population of the State could be supported, and that destructive tide of emigration

which has for years been bearing off some of our best and most enterprising citizens, would cease to roll. Our State would feel the mighty impulse, and with her great natural advantages she would quickly regain her lost pre-eminence in wealth and population. Society deprived of one of the greatest enemies to its peace, would become more fraternal, and thus the interests of virtue and religion, of intelligence and benevolence would be greatly advanced.

If such are to be the beneficial results of the proposed change, to agriculture, society and the State, where is the man, who would not undergo the few petty inconveniences which may occur under the new system in its incipient stages? Few, who are convinced of its advantages, will, for this reason, oppose it, and still fewer, we believe, will be injured by the change.

Thus have we, fellow-farmers, endeavored as briefly and candidly as we could, to call your attention to this important subject. It is one so interesting, so important in its bearings and results, that we could not easily have said less. We hope you will receive and consider our views in the same spirit in which they are advanced. We address *you*, as *you* have it in your own hands to say whether or not you will unite with us in putting an end to a system, so opposed to our interests as farmers, to the peace of society, and the prosperity of Virginia.

QUICK BEEF GROWING.

The New York Farmer has a letter from a correspondent on a new and quick method of getting either a small beef or a large veal, which seems to be worth notice. His method is this:

"Mr. D. M. Crowell took ten calves (all heifers) last spring, and commenced feeding them on sour milk at a few days old, keeping them on the same kind of food during the summer, taking good care to feed them uniformly, but not very abundantly, so as to keep them growing thriftily, without forcing too rapidly. In the fall they were put in the stables, and fed on hay and a little meal, increasing the quantity of the latter gradually, with the view of fitting them for beef in the spring, at one year old or a little under.

"These ten calves now look like young oxen, and are estimated to weigh about five hundred pounds each, alive. They will probably be sent to market soon, say next month, when we shall see how such beef will sell, and how it will be relished by the lovers of good eating."

For ourselves, we should hardly find it in our heart to decline a dinner of the best of them. We understood from Mr. C. who is one of our best farmers, and is making this trial by way of experiment, that he is not quite satisfied thus far with the present attempt to raise a beef in one year, and that he intends to renew the experiment another year, when he thinks some improvement can be made.—*Prairie Farmer.*

For the Southern Planter.

THE DIFFICULTIES OF AGRICULTURAL EDITORSHIP.

Improvement from the Accumulation and Management of Domestic Manures—Danger of Waste from Chemical Action, not Evaporation—Culture of Indian Peas, as a Cleansing and Improving Crop.

I cannot conceive of a more difficult position, for an editor, than yours. One may, with comparative facility, fill up a periodical with well written, scientific, moral, or religious articles; he may draw from the wide regions of fancy, things new and old; he may attempt, in the foul fields of politics, to kill vile weeds, or drain filthy pools; but suitably and efficiently to tell how man, by the sweat of his brow, is to draw sustenance from the bosom of mother earth, how he is to prepare her surface for abundant crops of fruit, and exterminate noxious weeds, when addressing incredulous and prejudiced readers, "*hoc opus, hic labor est.*"

One of your name—I presume a relative—once nobly sustained such a post. How much benefit he conferred on his native land, let those determine who prefer the civic wreath to the warrior's laurel. Why he relinquished his high position, I know not. I suspect he was all unconscious that he was a propitious harbinger of joy to his country, and was kindling a light destined to illumine the land. Could you enlist to your aid, in the cause of agriculture, his efficient pen, many, rejoicing to march in his lead, would flock to your paper. You, sir, have many difficulties in your way, all of which I will not mention. It is true, there are many more readers on agriculture, than in the days of "The Farmer's Register;" but they are mostly pre-engaged to journals published out of the State. I see no prospect of your deriving pecuniary benefit. Yours must mainly be *a labor of love.* Think not that the pen, now enlisted in your service, is moved by a vain belief of its owner, that it can do much for you or the public. The volunteering of a patriotic private may arouse enthusiasm in those well qualified to command. This is about all that is wanting. What hinders Old Virginia from assuming not only the fame, but the profit and the happiness of an enlight-

ened agriculture? Let her ask pardon of her noble agricultural sister, North Carolina, for ever having called her "Rip Van Winkle." Let her awake from her own centennial nap, and arouse her sons to filling gullies, removing rubbish, applying manures, and spreading verdure over her fields. This is a great work, and I nominate you, sir, as superintendent, or, in planter's phrase, overseer, and I trust you will call forth the ablest hands, and set them to work. On this subject I was once sceptical, but am now convinced, for I know lands worth double what they were five years ago.

In attempting to contribute a mite to this great work, I will state some of my own operations, and give the reasons for varying in any particular from what are considered as received opinions. Manuring has well been pronounced the main spring of successful agriculture. It surely is proper then to pay some attention to the means of collecting and manufacturing materials and applying the manure to the land. I never succeeded in a manner at all satisfactory, until I devoted a cart, a four-ox team, and an able bodied driver, almost exclusively to the business of hauling the material in and the manure out. On lands as steep as my high lands, oxen are better for this purpose than horses. At distances convenient to different parts of my farm, I place my hog-pen, my sheep-pen, my steer-pen, my cow-pen, and my stables along a ridge road for half a mile, and by this arrangement save much of the hauling. I make my sheep and cow-houses of wheat-straw, laid upon spacious frames, at the time of threshing. Much of the manure, by this means, can be made under shelter, and be prevented from excessive fermentation. I use as litter, besides the offal of my grain crops, all the leaves—particularly of the pine—which I can collect. Pine leaves being more permeable by fluids than oak leaves, receive and absorb urine to greater advantage. I consider it a great mistake and very injurious to agriculture, to consider "evaporation the great thief of manure." Chemical action, I think, the real thief. I believe that Virginia has lost incalculably from manures being permitted to lie in piles until three-fourths of their richest gases have escaped. To obviate this, I have endeavored to have half my land, intended for wheat,—the other half lying in clover,—thoroughly ploughed in winter, and then I begin to haul out and spread my manures, finishing, if practicable, by the first of June; then I plough again, to turn under the blue grass—not the Kentucky, but the *Poa Compressa*, a great nuisance to wheat—and other pests, while they are in bloom. After this, I sow cow-peas, and harrow. By this means, the manure is prevented from violent fermentation. In dry weather its moisture evaporates, and in wet its soluble materials soak into the earth, and soften and mellow the clods. By the time the pea crop is to be turned in, the fiery properties of the manure will have been subdued, and such parts of it as may not have been converted into pea-haulm, will be in a fine state to afford nourishment to the wheat. I am now harvesting some of the finest wheat that I ever saw grow, on lands enriched with unrotted manure, little more than a year ago. In a climate so changeable, where large quantities of manure are made, much of it would become effete, or, as the Scottish farmers would say, fire-fanged, before it could be applied to the land, were not special pains taken to avoid bulking, and other causes of chemical action. I think this subject most worthy of consideration.

But it may be asked, why not dispense with the pea crop, and apply the manure to clover in its infant state? This would do, possibly, better on lands sometimes cultivated in corn, or other hoe crop, which might serve to cleanse it of weedy pests. Having low grounds enough to furnish me with corn and oats, and believing that corn detracts greatly from the fertility of high land, I prefer on this account to use the pea as a cleansing crop. So far, I have great reason to be satisfied with the arrangement, for I find the low grounds, alternating with corn, oats and grass, aided by frequent inundations, rapidly improving, while the melioration of the high land has far surpassed my highest expectations. Since adopting this system, I have been compelled to cultivate in wheat on alternate years; I am, however, striving to clean up and improve land enough to afford me three shifts for wheat, and then, I hope, from increased means, of my own manures and a cautious resort to concentrated manures, to be able to manure one of them annually, at least a with moderate top-dressing, for a crop of peas, followed by wheat. I began about four years ago with my high land, (viz: most of it,) miserably poor, galled and gullied. It already more than doubles its former crops of wheat, having the crop of clover and peas on alternate years returned to it. When it becomes richer; and especially when but one crop of wheat shall be taken from it in three years, I hope to cut much clover hay from it, and to commence fattening my hogs on the peas. For the last two years, I think my wheat greatly improved, in quality as well as quantity. This may be, in a great degree, ascribed to the seasons, but I think much of the credit is due to the animal manure, so necessary for forming good grain for the wheat crop.

I have two strong reasons for getting the peas sown early; the first is because I suppose all the pests, such as onions, blue grass, ribwort, wild carrots, &c. are in a weaker state, and more easily destroyed when exhausted, by putting forth their blooms, than at any other time. My land was greatly poisoned with onions, and I have been much surprised to find what a near approach has been made to their extermination, even where they once grew thickest, by ploughing them in and sowing peas while they were in bloom. Nature affords to such nuisances a wonderful recuperative

power of shooting forth new roots, and preparing for another crop soon after their seed have ripened. The second reason for early sowing is, that the woody fibre may be ripened before they are fallowed for wheat in the fall. I think it highly important that what are called green crops should not be turned under when they are in a literally *green* condition, and consist of little besides sap. Let them be only ripe and it matters little whether they are in a living and succulent condition, or dead and dry. In the first state they will rot quicker.

I could say much more on these matters, but find I am becoming tedious. While I envy you not, the arduous labor of your position, unrequited, for the most part, I fear, even by a modicum of gratitude, I cannot conclude without congratulating you on the pleasures incident to the editorship of a journal, promising so much benefit to your country, and on the lively interest and good will excited towards you, in the bosoms of many good men. I could not comfortably read a journal, conducted by any man, without feeling that there was a certain bond between us. I feel also deeply thankful to Mr. Bernard, for his persevering efforts in the cause, and believe that he is, at length, about to succeed.

Very respectfully,

W. S. Morton.

Cumberland, July 3, 1852.

Dr. Morton, in the commencement of his essay, does no more than justice to Mr. Edmund Ruffin's achievements in behalf of agriculture. The Southern Planter has had "the aid of his efficient pen" in sundry instances, and to a considerable extent, though he usually writes anonymously.

But he has written voluminously and under his own proper name, for the American Farmer. This was upon the footing of a busines arrangement and contract made with Mr. Sands before we became connected with the Planter; and though we know that these essays would add very greatly to the attractions of our columns, we have not felt at liberty, by transferring them thereto, to deprive Mr. Sands in any degree of the benefit he expected to reap, and no doubt has reaped, from his contract. We understand that this direction of his writings ceased after the present State Agricultural Society of Virginia was established, Mr. R. then deeming it his duty to address to that body whatever he might thereafter write, upon subjects of practical instruction in agriculture, and suitable in form as well as substance to be so directed.

As Dr. Morton says, most of the readers "are pre-engaged to journals out of the State." This is a free country and we have no right to complain, but it does strike us as somewhat inconsistent that it should be so. "Protection to *home* industry," says the Whig, and—sends off to another State for his agricultural journal! "Southern rights and products, 'at all hazards and to the last extremity,'" says the Ultra—and takes his Northern farming paper and sends North for his plough!

But we wander from our subject. Mr. Edmund Ruffin (who is not so near of kin to us, let us say, as to make it indelicate in us to praise him,) has done much for his country, has earned a claim to something more than a testimonial and a dinner from the citizens of Prince George, his "jury of the vicinage," though that was doubtless most gratifying to him, and certainly most creditable to his entertainers. He has earned a testimonial from the Legislature so lavish of swords to military men, that it is hardly a distinction to have received one. But his friends have never claimed it for him, and the Assembly, good, easy souls, as the man had never an epaulette upon him, never thought of it. If they had, we hardly think he would have got it, to judge by the treatment he has lately received at their hands.

He had, at considerable labor, prepared a statistical table illustrative of the benefits of marl, which is not his hobby, but his horse. According to that table, it appeared that the greatest advance in the whole of Eastern Virginia has been in the marl region. Now he wanted to ascertain the exact truth in regard to that matter—to show precisely what marl had had to do with it; thereby to encourage the active, to stimulate the indolent, and to set forth the advantages possessed by a very considerable part of the State. But he could only do that by ascertaining who had marled, and how much in each case; then by comparing the facts thus obtained with the facts as derived from previous assessments and census reports, he could have shown it exactly. All this could have been done with but little trouble and no expense. It was merely necessary to instruct the commissioners of the revenue, in the marl district, to inquire of each farmer whose tax list they took, how much of his land was in woods, how much cleared, and

how much marled. It could have been done by each commissioner in less time than it has taken to write it here. He, whose labors have furnished so great an increase in the taxable property, so much of the fund for internal improvement, and in other ways so much solid wealth to the State, and who is complimented whenever it suits the politicians to tickle the agricultural interest, literally throwing "a tub to the whale," by-the-by, petitioned the Legislature to do this simple and inexpensive thing, this thing which could by no possibility benefit him, but would be of great service to the State. And instead of granting it with alacrity as a boon to him, and with cheerfulness as an advantage to the State, it was flatly refused by the House of Delegates, and was never reached by the Senate. We have heard that one of the leading farmers of the Legislature was positively opposed to it, and its defeat has been mainly ascribed to him. Now we have but one word to say about it, and that is that such a proceeding was a disgrace to the Legislature. We hope they will yet reconsider it and retrieve their character, but we owe it to candor to say, we fear they will not.

FLAX COTTON OR BRITISH COTTON.

Two weeks ago we inserted a letter from a friend, now travelling in Europe, respecting the progress made in the manufacture of flax cotton goods, or in other words, of goods manufactured from flax resembling cotton, from the newly discovered process of preparing the raw material. At the same time samples of this flax cotton, ready for the mill, were sent to us, which we now have on hand for exhibition to persons desirous of examining them. With these samples came also an elaborate argument in favor of the new cloths, and a general statement describing the process of preparing the raw material, the latter of which we publish below as possessing high claims to consideration for the farmers and manufacturers of this country.—*Telegraph.*

"The flax plant is composed of three distinct parts, the wood, the fibre, and the gum resin, which causes the fibres to adhere together. To remove the wood is the first object; and this, under the old system, was performed by a machine little better than a flail. Here commences the first improvement. At Stepney factory we saw a small apparatus at work, which, costing a mere trifle, removed the wood from the fibre with astonishing rapidity and cleanliness. It is proposed that growers should employ this machine on their farms; by which means they reduce the bulk by one-half, and at the same time retain the portion most useful for manure. In this state it will be brought to market for sale to the manufacturers, who will then have to free it, in the first instance, from the gum resin. Under the old system, this was effected by steeping the flax in cold water, a process which occupied from four to six weeks, and frequently caused much discoloration of the fibres. The Chevalier's mode consists in boiling the material in a weak alkaline solution for about four hours, after which it is washed first in a slightly acidified liquor, and then in plain water. It is then dried and in a fit state for the various processes of scutching, heckling, &c. necessary to render it fit for the linen manufacture. In order to "cottonize" the flax, according to the Claussen's patent, the fibres are taken from the washing vats direct to a series of other vats, ranged side by side; and it is in these that the magic of chemistry is so brought to bear as to transmute a heavy mass of dark, harsh straw, in the course of some minutes, to a light, silky, snow white wool.

In the first of these vats is a weak solution of carbonate of soda; here the previously boiled and washed fibres are steeped for about fifteen minutes, during which time they become completely saturated with the soda liquid. To explain the chemical action which follows, it is necessary to point out the structure of the flax fibre. These fibres, minute though they be, are cellular, composed of a number of smaller cylinders, united closely at their side. It is the separation of these finer fibres, and the consequent addition to the length and surface of the whole mass, that has now to be accomplished; a process that may well be likened to hair splitting.—These cellular fibres being thoroughly saturated with the soda in most minute quantities, are removed from the first vat, and placed in vat number two, containing water slightly acidulated with one part in five hundred of sulphuric acid. The change which now takes place is instantaneous. A rapid frothing and ebullition of the liquor may be observed, and the heavy mass of flax which, in the first liquor, sank far

below the surface, is now seen floating lightly on the surface of the water. It is no longer flax—it is British cotton. And how has this happened? The acid in this liquid, finding its way into the liquid cylinders, already saturated with the soda, immediately effects a chemical change; the sulphuric acid combines with the alkali, and forms sulphate of soda, giving out the carbonic acid gas from the carbonate of soda, which, seeking its liberation, expands and bursts open the cellular tubes. The cottonized flax is next placed in a weak solution of soda, in order to free it from any remaining acid; and thence transferred to the bleaching vat, which contains a mixture of solution of chloride of lime and sulphate of magnesia. Here it remains during two hours, at the end of which time it wears a perfectly snow white appearance. The process is then completed by washing, first in a weak acid liquor, and afterwards in pure water. It then only remains to dry the flax cotton, in order to fit it for the after processes, preparatory to spinning. The same method as has been here described, can be made available for converting the refuse tow from the flax establishments into a fine white article, admirably adapted for paper making, and at a less price than he pays for linen rags. The value of this latter preparation may be estimated, when it is known that one manufacturer of linen in the north of Ireland throws aside "refuse tow" to the yearly value of five thousand pounds sterling; all of which, at present, is utterly useless.

From what has been stated, it is evident that the objection held against this process, of its converting a dear article into a cheap one, does not hold. Not only is the value of the British cotton greatly enhanced by being rendered capable of spinning at the low cost of ordinary cotton goods, but the yield of marketable fibre is much increased, and at a much less cost of time and labor than was needed under the old method. The new fibre is so completely assimulated in character to cotton, that it readily receives the rich dyes imparted to the latter, and is, in short, capable of being printed or dyed in a precisely similar manner.

At the Stepney model factory we examined specimens of flannel, felt, and woollen cloth, manufactured of equal parts of British cotton and wool; also, a felt that was composed entirely of the former material. All of those goods had a remarkably stout feel, and appeared to be strong in their body.

Combined with silk British cotton may be worked up with great ease on the existing silk machinery, and when so wrought, is capable of receiving the same colors in dying, and materially adding to the strength of the fabric manufactured.

We saw two other substances, which, it appears, are quite as susceptible of being "cottonized" as flax; one was a coarse species of China silk, at present of little value; the other was "Jute" or Indian hemp. Both of these fibres were materially improved in appearance and feel, and are, no doubt, in their new form, adapted to purposes for which they were not at all available previously.

Looking at this "Flax Movement" in an agricultural point of view, we shall find as many advantages likely to arise from it in that direction as in any other. Hitherto it has been a most prevalent opinion that flax crops were exceedingly exhaustive in their effect upon the soil. Experiments fairly carried out have shown this to be a fallacy. Chemical analysis of the plant, and a series of flax crops taken from the same land, have proved beyond a doubt, that not only does this cultivation not weaken the soil, but tends to keep it in a state of great productiveness.

An examination of the structure of the plant demonstrates that those portions of it which absorb the alkalies and the nutritive properties of the soil, are those which are not required for the purpose of manufacture; namely, the wooden part, the resinous matter, and the seed. The fibres derive their elements almost entirely from the atmosphere, one hundred parts containing not more than two parts of mineral matter. Under the old process of steeping, the nutritive portions contained in the wood and gum, as well as the whole of the seed, were lost in the fermentation during steeping; so that nothing whatever was restored to the land. By the new method, these properties are capable of being returned whence they were taken. The seed may be either employed in feeding cattle, or crushed for oil; the oil cake being in that case returned for the cattle yard.

Estimates, based upon several years of actual experience, go to show that, by this cultivation, the farmer may realize a yearly profit of from fifteen pounds to eighteen pounds the acre, and that, too, upon land which has been just previously heavily cropped in cereals. Many thousands of acres which hitherto have yielded but indifferent and uncertain crops, or which

have scarcely been worth cultivation, may be brought under flax without any fear of the result. Hitherto, the absence of linen manufactures, and the consequent want of markets, in so many parts of England and Scotland, have proved a serious obstacle to any attempts at extending flax culture. But now that every grower may, by the purchase of an inexpensive and simply constructed machine, convert the flax-straw into a fit condition for economical and convenient transport to a market, and now that conveyance is so much lessened in cost, and that the patent process will before long be in active operation in every agricultural county of Great Britain and Ireland, it is to be hoped that a widely extended cultivation of this article may take place, affording active employment to a vast number of persons in all ages.

Already the patent has been taken in hand in Scotland; arrangements are in progress for a similar undertaking in Ireland; and should the like activity be manifested in England, there can be little doubt that two most important results will have been attained—the providing a great portion of our poorer population with good employment, and rendering our manufacturers less dependent upon the United States for the supply of flax and cotton."

THEORY OF MINERAL MANURES.

Messrs. Lawes & Gilbert have published in the Journal of the Royal Agricultural Society, the result of many experiments, made by them in the course of many years to ascertain the correctness of the idea advanced by Liebig that it is only necessary to apply the ashes of plants or mineral substances, for the support of crops. They took plots of ground of equal superfices, and applied different substances to the same crop. In one instance, ground which had no manure, produced sixteen bushels of wheat to the acre; fourteen tons of yard manure produced twenty-two bushels; the ashes of fourteen tons of yard manure, sixteen bushels; mean produce of nine plots supplied with artificial mineral manures, fourteen bushels three and a half pecks; on other plots the addition of sixty-five pounds sulphate of ammonia, (which Liebig held was unnecessary,) gave an average of twenty-one bushels. The increase by the use of the mineral manures recommended by Liebig, was, therefore, less than two bushels per acre, and the increase by ashes of manure nothing.—*Rural New Yorker.*

SEASONABLE RECIPES.

In exchanges we have met with several valuable recipes for remedies of disease generally prevalent, and often dangerous, at this season of the year. This first is from the New York Sun, and introduced by the following editorial remarks of that paper:

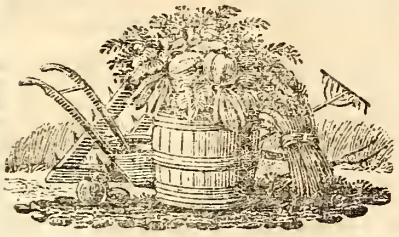
Cure for Diarrhœa.—At the request of many readers, we republish the recipe so generally known and appreciated since the summer of 1843, as the "Sun's Remedy," for bowel complaints, incidental to the summer season. To those who are not already aware of the merit of this remedy, we may say that no other prescription was so successful during the cholera season, in checking the dreadful disease' when used promptly on the appearance of the first symptoms. We advise our readers to preserve the recipe.

Take equal parts of the tincture of laudanum, tincture of cayenne pepper, treble strength, tincture of rhubarb, essence of peppermint, treble strength, spirits of camphor, mix in a bottle; dose from five to thirty drops, according to the violence of the symptoms. To be repeated every ten or fifteen minutes, if needed, until relief is obtained.

The following recipe will be found exceedingly valuable during the hot months, when there is so much liability to affections of the bowels: Parch half a pint of rice until it is brown; then boil it as rice is usually done. Eat slowly, and it will stop the most alarming cases of diarrhœa.

Weights and Measures.—The "Western Agriculturist" provides the following table of the number of pounds of various articles to a bushel, which may be of interest to our readers:

Of wheat, sixty pounds.
Of shelled corn, fifty-six pounds.
Of corn on the cob, seventy pounds.
Of rye, fifty-six pounds.
Of oats, thirty-six pounds.
Of barley, forty pounds.
Of potatoes, sixty pounds.
Of bran, twenty pounds.
Of clover seed, sixty pounds.
Of timothy seed, forty-five pounds.
Of flax seed, forty-five pounds.
Of hemp seed, forty-four pounds.
Of buckwheat, fifty-two pounds.
Of blue grass seed, fourteen pounds.
Of castor beans, forty-six pounds.
Of dried peaches, thirty-three pounds.
Of dried apples, twenty-four pounds.
Of onions, fifty-seven pounds.
Of salt, fifty pounds.



THE SOUTHERN PLANTER.

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TIMELY WARNING.

All subscribers who do not order a discontinuance before the commencement of the new year or volume, will be considered as desiring a continuance of their papers, and charged accordingly.

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Not over 50 miles, 1¼ cents.
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Over 300 and not over 1000 miles, 3¾ cents.
Over 1000 and not over 2000 miles, 5 cents.
Over 2000 and not over 4000 miles, 6¼ cents.
Over 4000 miles, 7½ cents.

The National Agricultural Convention met lately in Washington City. The following account of its doings, from the Rural New Yorker, is all that it is necessary to give. Sometime ago we saw it stated by a leading advocate of the Agricultural Bureau that Virginia was the only State in the Union that had manifested any hostility to that institution, which it was the main object of the Convention to establish; but now it appears that "the farmers of the Union, as a class, took but little part in the proceedings." This was as we expected, and wished. It is not the first time that editors have got ahead of their readers, and mistakingly attributed consent to silence. We have been against the bureau all along, first, as *unconstitutional*, if it be not ridiculous to use that term now-a-days; and, secondly, as another means, whether so intended or not, of plundering the office-ridden people of this country, and destined, like the agricultural department of the Patent Office, to be the football of politicians, and promising no more good than that has accomplished, which is little enough in all conscience. We have read all we could find in favor of the project, anxious to see an argument which we could attack, but never a one have our searching eyes been able to discover, much less expose. We rejoice that the humbug has exploded so harmlessly.

NATIONAL AGRICULTURAL CONVENTION.

The National Agricultural Convention, of which we gave some notice last week, seems to have done little for the cause which it was ostensibly called to promote. There were one hundred and fifty-four delegates present from twenty-three of the States, but the farmers as a class, took but little part in the proceedings. The President, Hon. M. P. Wilder, gave an eloquent and appropriate opening address, and, while waiting the organization, other remarks of like character were made by B. P. Johnson, Esq. and Mr. Calhoun of Massachusetts.—The session, which continued two days, was mainly spent in political debate, and all we can learn, that was accomplished, was the formation of a United States Agricultural Society, and the passage of a resolution requesting Congress to do something for the promotion of agriculture, the great productive interest of the country.

The topics of division among the agriculturists were, whether Congress should be asked to establish an independent agricultural department of the government, or whether it

should create such a department in connexion with the Smithsonian Institute, or whether a simple central society would best answer the purposes of the farmers. The business committee made a long report in favor of an agricultural bureau, which was strenuously opposed by a portion of the same committee, who wished for a department of agriculture in connexion with the Smithsonian Institute. The chairman of the committee, Senator Douglas, in support of the last project, remarked: If an agricultural department or bureau were established, it would soon become, like other offices of the government, a place for all politicians, and its occupants would be removable at every change of administration. This would make these men much too anxious about politics to give up their whole thoughts to their official duties, and the consequence would be the breaking down of the whole thing. He proposed that a department of agriculture should be attached to the Smithsonian Institute, and believed that this would be more in accordance with the views of Smithson than the course pursued at present by those in charge of the Institution.

There were now no practical results; abstruse and theoretical subjects were all the professors busied themselves about; and unless this state of affairs were reformed, the Institute would become most odious in the sight of the American people. If it was the wish of the friends of the Smithsonian Institute to make their establishment popular, they must rest it on the great industrial institutions of the country. He wished the Institution to prosecute the sciences, but only with reference to practical results. Let them pay attention to geology, mineralogy and mechanics, but not forget agriculture. The Institution must make itself useful, and not waste its investigations upon the stars and heavenly planets, and other matters which had no practical bearing. This Institution publishes transactions and sends them all over the globe. It receives vast numbers of agricultural reports and documents from all the agricultural societies of the country, but what does it do with them? For want of an agricultural department, there is no exchange of these reports, and they lie accumulating and useless.

Professor Henry, of the Smithsonian Institute, replied in an able speech, explaining and defending the objects of the Institute. He said, the will of Smithson was much misunderstood. His object in making that rich bequest was not an ordinary one; it was not merely useful knowledge, in the general acceptation of the word, that he contemplated the increase and diffusion of, but he had high objects, expanded and elevated purposes, for he was a man of much acquisition and research. The object of Smithson was not to confine the benefits of his institution to this country only, but to the whole brotherhood of mankind. The people of the United States stand as mere trustees for execution of his will and the proper use of the fund; a fund not intended for ends special to us, but for the universal family of man.

All discoveries must be encouraged, and such an institution as the Smithsonian required encouragement, that it might in the increase of knowledge, aid in adding new facts to science. For the diffusion of knowledge there were thousands of institutions where there was one for its increase, and the Smithsonian Institution is pursuing its true and genuine purpose in keeping that fact in full view. It had already published four quarto volumes, every page of which contained some new addition to knowledge, and these volumes were distributed in every direction. We will, said Professor Henry, co-operate with agricultural societies, and especially with the society now here in process of establishment. The Smithsonian Institution will offer its hall, its books, its apparatus.

We are even now doing much for agriculture. We are preparing an extended report on the forest trees of America; we have published a volume on the seaweeds of America. These things might appear of no practical value or importance, and yet they are of the highest importance.

The second day was spent in debate, Messrs. Holcomb, Robinson, Bell, Douglas and others participating, and the Convention adjourned *sine die*, able only to agree on the resolution above noted. We have not seen any "official" account of the proceedings, but condense our report of the speeches, &c. from the New York Evening Post. We hope there is a brighter side to the picture, and shall present it if there is, but as yet, to use the language of the political press, the whole affair seems "a fizzle," as far as any practical result is concerned, and very like that of the attempts heretofore made by Congress to "do something" for the agricultural interest.

FENCES ON THE BANKS OF STREAMS.

We clip the following from an exchange paper, the Germantown Telegraph. It looks like a promising idea. And it will cost very little to try it. If any one should try it we will be glad to hear the result. We would try it ourselves, but we have no river bank to enclose.

"A fence constructed in the Wissahickon, to prevent the cattle from passing from one bank to the other, was original and ingenious. It consisted of a continuation of poles connected together with short chains, the extreme ends of the united line being made fast to trees on the shore, and the whole floating on the top and made a fixture in the stream by small anchors. Where the water is not less than three feet in depth, this fence has been found to be

a sure protection, having frequently resisted a whole herd of cattle. This simple construction not only effectually restrains the cattle from wandering, and is almost indispensable in bottom lands liable to be overflowed during freshets, but it admits of the cattle using one-half the stream, which is of great advantage to both dairy and stock cattle in warm weather."

JUVENILE.—The youth who cut open the bellows to see where the wind came from, is now trying his hand at fattening greyhounds.

For the Southern Planter.

A SMALL VIRGINIA FARM.

Mr. Editor,—I am often asked what is the amount of my annual sales from my little farm of sixty acres of *cultivated* land. My books show that my sales of last year's produce were as follows:

Wheat, - - - -	$200 00
Corn, - - - -	125 00
Hay, - - - -	60 00
Cows and Beef, - -	50 00
Sheaf Oats, - - -	30 00
Threshed Oats, - -	22 50
Pork, - - - -	21 75
Flour, Bacon, &c. &c. - -	35 00
	$544 25

The produce consumed on the farm by an average family of three white persons (including workmen) and eight servants, who, in the absence of all *domestic* restraint, carry the keys, and eat and feed out what they please, and by the stock, including four horses, must have been worth upwards of seven hundred dollars. The principal items were—

600 bushels of Corn, - -	$360 00
12 barrels of Flour, - -	50 00
2,500 pounds of Pork, - -	125 00
1,000 pounds of Beef, - -	50 00
10 loads of Hay. - -	100 00
Oats, Potatoes, Butter, Poultry, &c.	50 00
	$735 00

Making a gross aggregate product of twelve hundred and seventy-nine dollars from sixty acres of land; being upwards of twenty-one dollars to the acre, which is more than the highest estimated product of the best cultivated farms in England.

By making corn, hay and potatoes my staple crops, and by the liberal use of concentrated manures, I am satisfied that the products of my farm can be *doubled* in the next five years; and as sure as I live I mean to do it. To most of us clodhoppers, the earth we till for our daily bread is a *terra incognita*, whose rich resources are not only undeveloped, but unexplored and undreamt of. Every farmer has a California gold mine beneath his feet, if he only knew how to dig out the precious ore. Well might the Roman clodhopper exclaim

> "O fortunatus nimium, sua si bona norint,
> Agricolas."

O happy clodhoppers, if you only knew how to farm it!

Do, good Mr. Planter, teach us how!

C. C. BALDWIN.

Rockbridge, Virginia.

From Moore's Rural New-Yorker.

BUTTER MAKING.

BY A FARMER'S WIFE.

Editors Rural,—I do not attempt the consideration of this subject in the expectation of adding any new and important facts, but to contribute my "mite" to the general stock of knowledge already gained, and to note down a few plain and simple facts for those who are, or expect to be, dairy-women in a small way. It seems to be a subject that requires "line upon line," to induce people to practise on the principle that good butter can be more profitably made than poor butter.

Something more than twenty years ago, I took upon myself the responsibilities of a farmer's wife, as too many others have done, without an adequate knowledge of its requirements and duties. I thought any one who was cleanly, could make good butter; a process so simple, that *skill* was quite unnecessary. I therefore undertook the management of the milk of ten or twelve cows, with all the confidence of ignorance. A few weeks convinced me that more knowledge and judgment were necessary than I had anticipated, to produce the *very best butter*.

Among my neighbors, was a woman who had been for years a dairy-woman in an extensive dairy in England. An old lady, somewhat fastidious in taste, whom we supplied with butter, observed that she would ensure to us among her friends, two cents a pound above the market price, as soon as my butter should equal Mrs. P.'s, (the woman above alluded to) in quality. Here was a direct appeal to a motive that always responds. I accordingly sought Mrs. P.'s advice. Said she, "Lay down a few plain rules; experience and observation will do the rest.

"Let all milk vessels be perfectly clean and free from acidity; a good circulation

of pure air, without having the wind blow on the milk; skim the milk before it turns sour, never letting the milk *thicken* with the cream on; churning often enough to prevent the cream from getting very sour; churn *moderately*, work the butter clear of buttermilk, salt with from one to one and a quarter ounces of *fine, sifted* salt, to one pound of fresh butter; let the butter stand twenty-four hours, then mould and prepare your butter for market, and depend on it, you will have a first rate article."

"Do you not have to wash your butter a great deal in warm weather to get out the buttermilk?" I inquired.

"No," said she, "such a practice ruins the butter, it washes out the sweetness; I never allow any water to touch my butter; sometimes I put a piece of ice, or cold spring water in the churn, but I do not like to do even that."

By close observation of these rules, combined with ambition to excel, and get the highest prices before the first season was over, I succeeded in bringing my butter to the required standard. I still thought Mrs. P. rather whimsical in her opposition to washing butter, and could not help accusing her of a little obstinacy. I at length became convinced that she was right. I then knew nothing of the chemical process by which the sweetness was washed out of the butter, but such I found to be the fact. I found, too, that the use of water injured the butter for keeping. By repeated experiments, it was found that of two jars of butter treated precisely alike, excepting that one was washed and the other unwashed, after being kept through the winter, the unwashed would invariably prove to be the best. Chemical analysis has repeatedly shown that the sugar which forms an ingredient in all milk and cream, is dissolved and lost in the water, thereby detracting from that delicious sweetness that all butter should possess.

I know that a small farmer who keeps but two or three cows cannot always command the advantages of more extended means. But if two cows only are kept, it is quite as important to the owner that they should be good ones, and yield good butter in proportion to the money invested, as it would be if he were able to keep twenty. There are very few situations, where sufficient accommodations cannot be obtained, by a small outlay of what the Yankees call "contrivance," to enable a careful, observing woman, to make the very best butter. I can see no good reason why so much poor butter is made and carried to market, when a little more care and attention would produce an article that any woman might be proud to call her work.

It is so much more *convenient*, too, to supply individual families, and take the money for your butter, than to have that which you are obliged to solicit grocers to buy, and then be paid in their goods, at their own prices.

I am much inclined to think that what we have gained in *time*, by the introduction of churns that will produce butter with five or ten minutes labor, has been overbalanced by loss in *quality* and *quantity*. I have used "Gault's Churn," but will not say there is none better, but with that I have found *rapid* churning would always injure the quality of the butter. As to what is denominated *cooking butter*, which is but another name for rancid, worthless stuff, such an article should never be used in any kind of food, as all experience shows that it is decidedly unwholesome, and spoils the taste of anything in which it becomes an ingredient. If by accident or from other causes, butter becomes rancid, consign it to the receptacle for "soap grease," and enter the amount on the page of "losses."

When a good spring of water can be commanded, a very little expense will make it a valuable auxilliary in the making of good butter. Here I would say a few words about vessels in which to set milk. If the arrangements allow of setting the pans in running water, I prefer the stone crocks of the potteries, perfectly glazed, made a little larger at the top than at the bottom. The only reason why they are preferable to tin, is the liability of the latter to rust, from continual contact with the water. In all other situations, I believe tin is the best of any thing we can at present use, both on account of cleanliness and economy. I presume at some future time, glass will come into use for that purpose, and there is no doubt it is better for milk pans than any other material, or will be, when it can be manufactured sufficiently cheap and strong. A few years ago, when zinc was highly recommended for milk pans, my husband was desirous that I should give them a trial; I did so, and directly found that the least acidity would decompose enough of the zinc to color that portion of the milk that settled at the bottom when the milk began to sour, rendering them wholly unfit for the purpose.

Many persons complain of being unable to make yellow butter in winter. Some

cows will yield yellow butter at all seasons, others not at any season; much, however, depends upon the kind of food given to the cow. I think the freezing of milk takes the color out, and injures the butter. I prefer setting milk where it will not freeze till the cream has all risen; next to that, I like the practice of scalding the milk till the minute bubbles begin to rise from the bottom of the pan, then let it stand from twelve to eighteen hours, when the cream will be *all* at the top in a rich mass that may be cut; hence the name, "clotted cream," which always yields a large quantity of butter in proportion to its bulk, with a very little churning. I have seen a bowl of this cream converted into butter by stirring with a common table spoon in three minutes. The butter has a peculiar sweetness, and the cream is considered a great delicacy, particularly among English people, eaten with fruit at dessert.

Any desired shade of yellow can be given to winter butter without in the least injuring the flavor, by grating an Altringham carrot into a little milk and straining into the cream. I mention this kind of carrot because it is higher colored, and consequently less of the juice is required. A little practice must regulate the quantity. The yolk of a fresh egg, well beaten, to two quarts of cream, will produce the same result.

Since writing the above, I have been looking over an article for the "dairy," in a recent number of the Boston Cultivator, and find some interesting remarks made before a Council of the Royal Agricultural Society, by a gentleman who kept an extensive dairy in Holstein. I find his practice so well agrees with my own ideas of proper dairy management, that I send you the remarks for publication, if you think proper.* His dairy is much like that recommended in the plan of a "Farm Cottage," which took the premium of the New York State Agricultural Society in 1848, and since published in the RURAL, of October 10, 1850.

Willow-Dell Farm, June, 1852.

* The article referred to, will appear in our next number, headed "A Holstein Dairy."—EDITOR SOUTHERN PLANTER.

ATTENTION TO ROOT CROPS.—Keep your root crops clean from weeds and grass, and the soil open to the fertilizing influences of the atmosphere.

From the Genesee Farmer.

APPLICATION OF FERTILIZERS TO GARDENS.

Those who are in the habit of perusing the agricultural and horticultural journals, must have observed that every year, and indeed every month, the subject of preparing and applying fertilizers of the soil, assumes more and more importance. In all the older States the primitive fertility of the soil is becoming exhausted, and people are finding out in the declining produce of their fields and gardens, that they must either apply manures or move farther back. Twelve years ago, in the city of Rochester, manure—good stable manure—could be had in abundance for nothing. Thousands of loads were annually emptied into the river. Now it commands twenty-five cents a two-horse wagon load at least; and that in a fresh, rough state, as it comes from the stable floor. Every year it grows dearer and scarcer, although the land has not increased, while the quantity of manure produced annually has more than quadrupled.

This shows the growing importance of manure here; and it is so in other places. Patent manure and poudrette companies, and searches after fertilizers in the bowels of the earth, are all so many proofs that we are no longer ignorant of the value of manures; and proofs, too, that a better system of culture is rapidly gaining ground. It is a fact that every man who cultivates a field, an orchard, or a garden, should remember well, that to be successful, he must understand the making as well as the application of fertilizers. Without it he can not produce a remunerating crop on his farm, nor fine fruits or flowers in his garden. Our object at this time is not to discuss the subject in a general way, but to point out now, at the commencement of the growing season, a mode of fertilizing more particularly applicable to the garden, although in other countries practised extensively on farms, as will presently be seen.

It is well known that manure, before it is in a proper condition to be taken up by the roots of plants, must be in a state of solution. When solid barn-yard manure is applied, it remains ineffective until the moisture of the ground and rains dissolve it. But in this country we often have dry summers, during which manures often remain solid during the whole season of growth, and turn up in the autumn almost

as fresh as when turned in; the plants, meantime, starved. In such a climate it is evident that old, well decayed manure, will be most effectual; and if in a liquid state better still, in all cases where we wish a rapid and luxuriant growth, as in the case with most garden vegetables and other annual plants. It supplies the place of both rain and manure—essentials of good growth. The liquid manure tank will become an indispensable adjunct to every American garden. The subject is attracting great attention even in the rainy climate of England, and we extract the following from a late number of the Gardener's Chronicle, offering some important suggestions in regard to the proper mode, and proper periods in growth, of applying it to the best advantage:

"The great importance of the liquid manure question, and the numerous inquiries made of us as to the application of this fluid, lead us once more to resume the subject, restricting ourselves on the present occasion to a single point, namely, the period in the growth of a plant when it may be most advantageously applied, or should be altogether withheld.

"In order to understand this part of the question it must be borne in mind—first, that liquid manure is an agent ready for immediate use—its main value depending upon that quality; second, that its effect is to produce exuberant growth; and third, that it will continue to do so as long as the temperature and light required for itsaction are sufficient. These three propositions, rightly understood, point to the true principles of applying it; and if they are kept in view, no mistakes can well be made. They render it evident that the period in the growth of a plant, at which it should be applied, depends entirely upon the nature of the plant, and the object to be gained.

"If, for example, wood and leaves are all that the cultivator desires to obtain, it will be evident that liquid manure may he used freely from the time when buds first break, until it is necessary that the process of ripening the wood shall begin. Wood can not ripen so long as it is growing; wood will continue to grow as long as leaves form, and its rate of growth will be in direct proportion to their rate of development; therefore, to ripen wood, growth must be arrested. But the growth of wood will not be arrested so long as liquid manure continues to be applied, except in the presence of a temperature low enough to injure or destroy it. Hence it is obvious that liquid manure must be withheld from plants grown for their wood and leaves, at the latest, by the time when two-thirds of the season shall have elapsed. To administer it in such cases towards the end of the year, would be to produce upon it an effect similar to that caused by a warm, wet autumn, when even hardy trees are damaged by the earliest frost.

"In the case of flowers, it is to be remembered that the more leaves a plant forms, the fewer blossoms in that season; although perhaps the more in a succeeding season, provided exuberance is then arrested.—The application of liquid manure is therefore unfavorable to the immediate production of flowers. It is further to be remarked, that even although flowers shall have arrived at a rudimentary state, at a time when this fluid is applied, and that therefore their number cannot be diminished, yet that the effect of exuberance is notoriously to cause deformity; petals become distorted, the colored parts become green, and leaves take the place of the floral organs, as we so often see with roses grown with strong, rank manure. In improving the quality of flowers, liquid manure is therefore a dangerous ingredient; nevertheless its action is most important, if it is rightly given. The true period of applying it, with a view to heighten the beauty of flowers, is undoubtedly when their buds are large enough to show that the elementary organization is completed, and therefore beyond the reach of derangement. If the floral apparatus has once taken upon itself the natural condition, no exuberance will afterwards affect it; the parts which are small will simply grow larger, and acquire brighter colors; for those changes in flowers which cause monstrous development, appear to take effect only when the organs are in a nascent state—at the very moment of their birth. Hence it is clear, that in order to affect flowers advantageously by liquid manure, it should be given to plants at the time when the flower bud is formed and just about to swell more rapidly.

"With fruit it is different; the period of application should there be when the fruit, not the flowers, are beginning to swell. Nothing is gained by influencing the size or color of the flower of a fruit tree; what we want is to increase the size or abundance of the fruit. If liquid manure is applied to a plant when the flowers are growing, the vigor which it communicates to them must also be communicated to the

leaves; but when leaves are growing unusually fast, there is sometimes a danger that they may rob the branches of the sap required for the nutrition of the fruit; and if that happens, the latter falls off. Here, then, is a source of danger which must not be lost sight of. No doubt, the proper time for using liquid manure is when the fruit is beginning to swell and has acquired, by means of its own green surface, a power of suction capable of opposing that of the leaves. At that time liquid manure may be applied freely, and continued, from time to time, as long as the fruit is growing. But at the first sign of ripening, or even earlier, it should be wholly withheld. The ripening process consists in certain changes which the constituents of the fruit and surrounding leaves undergo; it is a new elaboration, which can only be interfered with by the continual introduction of crude matters, such as liquid manure will supply. We all know that when ripening has once begun, even water spoils the quality of the fruit, although it augments the size; as is sufficiently shown by the strawberries prepared for the London market, by daily irrigation. Great additional size is obtained, but it is at the expense of flavor; and any injury which mere water may produce, will certainly not be diminished by water holding ammoniacal and saline substances in solution.

"Root crops stand in a different position to any of the foregoing. They are most analogous to the first of the above cases; for their roots may be compared to wood, of which they are equivalents. But there is this important difference, that whereas the quantity of wood is in direct proportion to the quantity of leaves, the reverse is the case with root crops. The turnip that throws up an enormous tuft of leaves, has a very small bulb; and so of the carrot. In these plants the root is formed by the leaves; but only when they themselves cease growing vigorously. The true object is to obtain plenty of foliage early enough to afford time for the after formation of the root. This is what happens under ordinary circumstances. The leaves grow rapidly during the warm weather of early autumn; but when the temperature falls, their own development is languid, and all their energy is expended in augmenting the mass below them. We entertain little doubt that by the constant application of liquid manure, a turnip might be absolutely prevented from forming more root than a cabbage. In root crops, what is wanted is an abundant supply of liquid manure when the leaves are forming, so as to secure early a large and vigorous foliage; after which no liquid manure whatever ought to be applied. This is quite consistent with the evidence collected by Mr. Dudly Fortesqu, and published in the minutes of the board of health, to which we have so often, of late, had occasion to refer. Speaking of Mr. Kennedy's farm, in Ayrshire, this gentleman says: 'Of the turnips, one lot of Swedes, dressed with ten tons of solid farm manure and about two thousand gallons of the liquid, having six bushels of dissolved bones along with it, was ready for hoeing ten or twelve days earlier than another lot dressed with double the amount of solid manure without the liquid application, and were fully equal to those in a neighbor's field which had received thirty loads of farm-yard dung, together with three hundred weight of guano and sixteen bushels of bones per acre. The yield was estimated at forty tons the Scotch acre, and their great luxuriance seemed to me to justify the expectation. From one field of White Globe turnips, sown later, and manured solely with liquid, from forty to fifty tons to the Scotch acre were expected. A field of carrots treated in the same manner as the Swedes, to which a second application of liquid was given just before thinning, promises from twenty-six to twenty-five tons the acre.'

"Such we believe to be the principles that should regulate the periods of growth at which liquid manure ought to be given to plants. Those principles are founded upon what appear to be the natural requirements of vegetation—are consistent with all at present known of the subject; and seem to account satisfactorily for many of the failures that are said to have attended the application of this agent. Let us add, however, that they are fair subjects of discussion, and will be all the better understood if subjected to rational criticism. We should therefore be happy to receive the opinions of any correspondents whose experience enables them to coincide with, or to differ from us, in this most important matter."

Peach trees should be carefully examined about the roots at this time, and a sharp knife used to clear away all gum, grubs and dead bark. Wash with soft soap and soot, and draw the earth up around the tree in a small hillock.—*Mass. Ploughman.*

For the Southern Planter.

VIRGINIA STATE AGRICULTURAL SOCIETY.

The Executive Committee met at the call of the President, at the Exchange Hotel in the city of Richmond, on Friday evening the 16th of July, 1852, at 4 o'clock, P. M.

Present: E. Ruffin, President; William H. Richardson, member of Committee; B. Peyton, Treasurer; Frank: G. Ruffin, Corresponding Secretary; Charles B. Williams, Recording Secretary.

Mr. E. Ruffin, from the Committee appointed for that purpose, reported the draft of a circular letter and list of queries to be addressed to Farmers throughout the State, with the view of obtaining from them important information of a practical nature on various subjects connected with agriculture; which report was adopted, and thereupon the Committee came to the following resolution:

Resolved, That the Recording Secretary have the said circular and queries published in the Southern Planter, and have five hundred separate copies printed and directed to suitable persons in the various counties of Virginia.

Resolved, That Messrs. Frank: G. Ruffin, Hill Carter and Thomas J. Randolph be appointed a committee to prepare an address to the people of Virginia, urging the support of the State Agricultural Society; and also, a petition for general subscription, praying the Legislature of Virginia for aid to agriculture.

The following resolution was proposed for adoption, which was, on motion, laid upon the table:

Resolved, That a Standing Committee of Publication be appointed, whose duty it shall be to examine all communications and essays addressed to the Society which may be referred to them, and to prepare such of them for publication as they may deem proper to be adopted for that purpose.

The following essays were received and ordered to be referred to the Committee on Publication:

"New views of the theory and laws of rotation of crops, and their practical application."

"The profitable improvement of poor land, either mainly or entirely from its own resources."

Resolved, That the first annual meeting of the Society be held on Thursday the 16th day of December next, in the city of Richmond.

Premium for Analyses of Marl, &c.

A complete set of the "Farmers' Register," ten volumes, (well bound in calf, and lettered suitably to the distinction,) is offered by Edmund Ruffin, through the Virginia State Agricultural Society, and will be awarded in 1853, by the Society, under the general regulation and procedure in regard to premiums, for the following scientific aid to agricultural practice and improvement:

The most valuable series of analyses, conducted by, or under the particular direction of any one chemist, of different kinds of marl of lower Virginia, or of the accompanying beds of other earths, supposed to contain manuring ingredients.

In deciding upon the relative superiority of claims of competitors for this offered premium, regard will be had to the number of analyses, the diversity and importance of the particular subjects, the accuracy of the methods used and described, the proper direction of investigation, and especially the probable utility and benefit of the results, in their application to agricultural practice, and improvement of soils.

It is to be understood that the award of this premium shall not invalidate or lessen any claim which the receiver might otherwise properly present upon some of the same grounds, for any other premium offered by the State Agricultural Society, on subjects of scientific investigation, useful discovery, or of communications thereupon.

In accordance with an invitation from the Farmers' Club of the county of Nottoway, it was resolved to adjourn to meet at Blacks & Whites, in said county, on Friday next, the 23d instant.

E. RUFFIN, *President.*

CHAS. B. WILLIAMS, *Rec. Secretary.*

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CIRCULAR.

Letter from the Executive Committee of the State Agricultural Society to the Farmers of Virginia.

SIR,—The all-important and indispensable means for the Virginia State Agricultural Society to produce much benefit to agriculture, will be found in the collecting the useful facts or instructive opinions which are known to numerous individual farmers—and the embodying of such information, and then diffusing it for the use of the agricultural community of Virginia. To perform this service, the most valuable of all the designed services and operations of the State Society, there will be required written communications from many farmers; and without that aid nothing can be done in this important respect. With such aid, rendered freely, fully and zealously, the Society can and will do every thing for its great objects, that can be looked for from any such association.

The Executive Committee respectfully ask and hope for your individual aid and co-operation in this particular direction—and, through your influence, the aid of as many other farmers of your county or acquaintance, as may, both by their public spirit and their enlightened self-interest, be induced to thus co-operate. Without regard to the particular names to which copies of this circular letter will be di-

rected, (which of necessity must be few, and mostly selected without personal acquaintance,) it is hoped that every farmer who has any useful information to give to his fellow-laborers, will communicate it for public and general benefit, as now requested, through the State Agricultural Society.

The annexed list of queries is submitted merely to suggest some of the numerous useful subjects for communications, and not to confine to these the range of communications. There are numerous other subjects as well deserving consideration, and upon which information would be useful; and communications on any and every subject within the wide bounds of farming practice, will be acceptable to the Society, and valuable to the great agricultural community. All such answers to this letter, or like communications of useful facts or opinions, in whatever form communicated, will be digested and embodied, and extensively diffused through the publications of the State Society.

Those persons who may treat of subjects requiring extended discussion, and whose communications will take the form of essays, will thereby still more effectively serve the Society and the public. The publication of such communications will not be postponed by the Executive Committee to the general meeting of the Society; but, after being duly scrutinized and approved, will be placed before the public in the Southern Planter and other available channels. Should any essays, or the subjects of any written communications, be such as properly to compete for any premiums offered by or through the Society, their claims to such premiums at a later time shall not be invalidated or affected by the prior reception and publication.

Communications for the Executive Committee, of agricultural information, if forwarded by mail, should be directed to the Corresponding Secretary.

For the Executive Committee of the State Agricultural Society,

FRANK: G. RUFFIN,
Cor. Secretary.

SUBJECTS

Suggested for Communications in writing to the State Agricultural Society of Virginia.

Agricultural reports, in detail, of any particular county, smaller division, or even single farm, and the farming practice thereof, offering subjects of interesting and instructive agricultural information.

Descriptions of new or improved practices or processes, manures, or implements.

Descriptions of any actual operations serving for useful examples, in clearing, fencing or enclosing land, manuring, draining, cultivation of particular crops, breeding, rearing, feeding and fattening of animals—or any other farming labors and investments.

Economical methods and practices, of tried benefit, for increasing supplies of farm-made manures—and discoveries or trials of mineral or other materials for manures in new localities.

Preparing, preserving and applying ordinary putrescent manures from stables and stock yards, &c. of farms.

Composted and mixed manures—modes of preparing and applying—costs and benefits.

Uses and effects as manure of alluvial or other earth, rich in mineral or organic matters, or mud of swamps, marshes, ponds or rivers.

Leaves raked from wood-land, as manure.

Estimates of costs, products and profits of purchased manures of all kinds.

Statements of costs, profits and other results (and especially in regard to difference of health,) of any particular operations of laying dry and cultivating former sites of mill-ponds, and substituting canals to supply water power to the mills.

Description of good points to be observed in the selection of milch cows, and particularly as to what is known in regard to the Guenon theory in relation thereto.

Remarks on dairy husbandry, and the mode of getting milk and butter to market.

On various modes of curing tobacco, such as the difference between curing the same kind in the shade or house without fire; in the house with fire; and partially in the sun; and afterwards in the house with, and without fire.

On the advantage or disadvantage of using salt in curing tobacco.

On the efficacy of salt in destroying worms in the soil; its beneficial effects used as manure, and the quantity to be applied under various circumstances.

On the mode of raising and curing hay from corn sowed or drilled, and value of it as compared with timothy, clover and herdsgrass hay.

On the character, habits and various stages of predatory insects, such as joint-worm, army-worm, Hessian fly, &c. and the best methods of preventing their ravages upon crops.

We call particular attention to the Address of the Farmer's Club of Nottoway on the Enclosure System. It is a strong document, and speaks for itself. We had intended to have made some few remarks on the subject, but have no time. Nor do we conceive it very necessary.

JACKSON SPONGE CAKE.—Take one cup of flour, one cup of sugar, three eggs and one tea-spoonful of cream tartar, stir them well together, then dissolve one-fourth of a tea-spoonful of salæratus in a table-spoonful of hot water, add to the cake, stir briskly and bake half an hour.—*Michigan Farmer.*

SEED WHEAT.

Garland Hanes, Esq. of Henrico, has left at our office samples of very fine white wheat, raised on his farm, which he wishes to dispose of for seed. It is represented as a very prolific variety—the grains being very plump and heavy. See his advertisement in another column.

James T. Redd, Esq. of Caroline, has also left with us some fine specimens of wheat, raised by him, known as the "Mammoth" and "Bald Head" varieties.

Farmers visiting the city can see them at our office.

How to Kill Ants.—An Irish journal states the following as a fact. A vessel containing the water in which *prunes* had been stewed, had been placed in a cupboard, which was infested with these insects, and on being looked at a few days after, all the liquid had disappeared, and in its place was a compact mass of dead ants, weighing more than two pounds.—The trouble of boiling prunes, for this purpose might be saved, by purchasing three pence worth of treacle.

To Prevent Bots in Horses.—A person of much experience in veterinary science is never troubled with this disease in his horses. His simple practice during the fall months, is to keep a greasy cloth in the stable, and once a week rub with it such parts of the animals as may have been attacked by the nit-fly. Grease destroys and prevents the eggs from hatching.

For Cattle and Horses.—Mix occasionally one part of salt with four parts of wood ashes, and give the mixture to different kinds of stock, summer and winter. It promotes their appetites and tends to keep them in a healthy condition. It is said to be good against bots in horses, murrain in cattle, and rot in sheep.

To Make Hens Lay.—The "South Carolinian" says a neighbor states that hog's lard is the best thing he can find to mix the dough he gives to his hens. He says that one cut of this fat, as large as a walnut, will set a hen to laying immediately after she has been broken up from setting, and that, by feeding them with the fat occasionally, his hens continue laying through the whole winter. This is worth trying, at least.

PAYMENTS TO THE SOUTHERN PLANTER,

From July 1st, to July 23d, 1852.

George Payne, to January, 1853,	$2 00
Leroy C. Timberlake, to January, 1853,	1 00
W. C. Jones, to January, 1853,	4 00
L. H. Knight, to July, 1853,	1 00
William J. Carpenter, to Jan. 1853,	4 00
Judge John Robertson, to July, 1852,	4 50
Col. J. Chowning, to January, 1853,	1 00
O. H. Chalkley, to July, 1852,	1 00
G. P. Chalkley, to July, 1853,	1 00
R. F. Hannon, to January, 1853,	1 00
Edward Porter, to January, 1853,	1 00
Josiah Collins, to July, 1854,	4 00
Richard Irby, to July, 1853,	1 00
William Irby, to July, 1853,	1 00
G. N. Seay, to July, 1853,	1 00
Dr. A. A. Campbell, to July, 1854,	2 00
Edmund J. Thompson, to January, 1853,	1 00
William F. Leake, to January, 1853,	1 00
Thomas H. Perkins, to January, 1853,	1 00
John W. White, to July, 1853,	1 00
Peter White, to July, 1852,	1 00
John T. Childrey, to January, 1853,	1 00
Charles A. Robertson, to July, 1853,	2 00
J. S. Nicholas, to January, 1853,	7 00
S. C. Harper, to July, 1853,	1 00
William A. Temple, to January, 1853,	2 00
Thomas Wright, May, 1853,	1 00
David E. Sharp, to July, 1853,	1 00
George S. Blakey, to July, 1853,	1 00
Dr. J. Claiborne, to March, 1853,	1 00
O. White, to January, 1853,	1 00
C. C. Snow, to January, 1853,	1 00
William D. Wallace, to January, 1853,	1 00
Thomas J. Wallace, to January, 1853,	1 00
Albert G. Curtis, January, 1853,	1 00
John S. L. Slocum, to January, 1853,	1 00
William Barrett, to January, 1853,	1 00
Thornton Moore, to January, 1853,	1 00
George Sampson, to January, 1853,	1 00
Richard Sampson, to January, 1853,	1 00
Thomas Gaskins, to January, 1853,	1 00
Dr. A. P. Strother, to January. 1854,	2 00
James E. Anderson, to July, 1853,	1 00
A. B. Fitzgerald, to July, 1853,	1 00
Benjamin H. Stamps, to July, 1853,	1 00
William Grimes, to January. 1853,	1 00
Elijah B. Wood, to July, 1853,	1 00
J. D. Massenburg, to January, 1853,	1 00
J. E. Gillet, to May, 1853,	1 00
Warren Edwards, to May, 1853,	1 00
G. H. Crank, to September, 1852,	1 00
Dr. D. B. Roy, to January, 1853,	1 00
Dr. G. Field, to January, 1853,	6 00
Thomas Plummer, to April, 1853,	1 00
Joseph L. Jones, to April, 1853,	1 00
William L. Brodie, to April, 1853,	1 00
James T. Pope, to April, 1853,	1 00
Dr. Stephen Davis, to April, 1853,	1 00
W. A. Kearney, to April, 1853,	1 00
Dr. A. B. Hawkins, to April, 1853,	1 00
Maj. H. W. Eaton, to April, 1853,	1 00
John H. Lee, to April, 1853,	1 00
Peter M'Gee, to July, 1853,	1 00

S. C. Sneed, to July, 1853,	$2 00
B. L. Johnson, to July, 1852,	1 00
E. W. Hubard, to January, 1852,	1 00
B. M. Wailes, to September, 1852,	1 00
John Massie, to January, 1853,	1 00
John B. Lasley, to July, 1853,	1 00
Col. William Crawford, to Jan. 1853,	1 00
A. F. Butler, to January, 1853,	1 00
Isaac A. Paul, to May, 1853,	1 00
W. C. Lumsden, to May, 1853,	1 00
John L. Morris, to May, 1853,	1 00
J. R. Shiplett, to May, 1853,	1 00
James Eastham, to May, 1853,	1 00
Dr. G. W. Kemper, to January, 1853,	1 00
W. T. Parrott, to January, 1853,	1 00
James M. Harris, to January, 1853,	3 00
I. de Vlaming, to January, 1853,	1 00
R. B. Hendrick, to January, 1853,	1 00
Mrs. Eliza M'Donald, to July, 1853,	1 00
William Gamble, to September, 1853.	1 00
James H. Fitzgerald, to January, 1853,	3 00
William Meredith, to July, 1853,	1 00
J. L. Dawson, to July, 1853,	1 00
W. A. Yager, to June, 1853,	1 00
James M. Jackson. to May, 1853,	1 00
Ro. S. Mills, to July, 1853,	1 00
William M. Jones, to January, 1853,	3 00
Dr. M. Page, to July, 1853,	1 00
Robert Snapp, to July, 1853,	1 00
William Frazier, to July, 1853,	1 00
George Hocker, to January, 1853,	1 00
Edwin Steger, to September, 1852,	1 00
P. B. Jones, to July, 1853,	1 00
T. S. Major, to January, 1852,	1 00
Edmund Henshaw, to July, 1853,	1 00
William M. Shepherd, to Sept. 1852,	
H. R. Holland, to June, 1853,	
Thomas A. Hughes, to June, 1853,	5 00
Frederick Erney, to June, 1853,	
H. W. Baskett, to June, 1853,	
Robert Kent, Sr. to June, 1853,	
G. R. Gibbons, to July, 1853,	1 00
Ambrose P. Hill, to June, 1853,	1 00
William Major, to June, 1853.	1 00
William B. Ross, to June, 1853,	1 00
R. H. Cunningham, to June, 1853,	1 00
Dr. D. S. Green, to September, 1854,	2 00
S. S. Bradford, to June, 1853,	1 00
Charles Yager, to June, 1853,	1 00
James Collins, to June, 1853,	1 00
John H. Rixey, to June, 1853,	1 00
John Vaughan, to June, 1853,	1 00
George M. Wood, to June, 1853,	1 00
Dr. R. K. Long, to June, 1853,	1 00
Dr. A. Taliaferro, to June, 1853,	1 00
John Wharton, to June, 1853,	1 00
Benjamin Farish, to June, 1853,	1 00
Edward Lightfoot, to June, 1853,	1 00
William T. Humphreys, to June, 1853,	1 00
Maj. R. C. Brown, to June, 1853,	1 00
Jeremiah Morton, to June, 1853,	1 00
C. C. Beckham, to June, 1853,	1 00
John N. Griffin, to June, 1853,	1 00
J. W. Hudson, to June, 1853,	1 00
C. P. Crutcher, to June, 1853,	1 00
George Ficklin, to June, 1853,	1 00
Col. Pickett Withers, to June, 1853,	1 00
Col. Robinson Coons, to June, 1853,	$1 00
James Wager, to June, 1853,	1 00
William A. Bowen, to June, 1853,	1 00
Thomas W. Jones, to June, 1853,	1 00
W. S. Coons, to June, 1853,	1 00
William D. Field, to June, 1853,	1 00
Capt. Ed. Beale, to June, 1853,	1 00
George Pannill, Jr. to June, 1853,	1 00
Thomas G. Gibson, to June, 1853,	1 00
Albert Thomas, to June, 1853,	1 00
W. O'Bannon, to January, 1852,	1 00
James F. Brown, to June, 1853,	1 00
Morgan Wood, to June, 1853,	1 00
John S. Parks, to June, 1853,	1 00
William S. Wallis, to June, 1853,	1 00
L. H. Taliaferro, to June, 1853,	1 00
Philip Mallory, to June, 1853,	1 00
William Rixey, to June, 1853,	1 00
Rev. Barnet Grimsley, to June, 1853,	1 00
G. J. Kelly, to January, 1854,	2 00
Gen. J. B. Harvie, to July, 1853,	1 00

CONTENTS OF NUMBER VIII.