

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 AND PROPRIETOR.

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For the Southern Planter.

ON THE HORSE.

PART I.

*Classification, Nomenclature and Breeding of the Different Varieties of Useful Horses in England, particularly Yorkshire, the great Horse-breeding District of England. The Percheron Horse of France.*

NEW YORK, Jan. 15, 1855.

My Dear Father:\*

The Agricultural Society of Yorkshire, the principal horse-breeding district in England, for their prizes, divide horses into four classes.

(See the Prize List enclosed.)

1. Coach, Coaching or Carriage Horses;
2. Hunters;
3. Roadsters;
4. Horses for Agricultural Purposes.

1. In coaching or carriage horses the largest dealers in Yorkshire for the stud are William Burton, residing just outside the walls of York, and Jonathan Shaw of Acomb Hall. The former breeds most of his coaching stallions and travels (or as we say stands) them, as well as thoroughbred, cart and roadster or nag stallions. The latter does not breed any of his horses, but buys coaching and roadster entire colts at a half year old, and rears them from that age chiefly on a farm at some distance from York. Both these men quoted to me the saying of the District of Cleveland,—the low lying district extending from the York Moors to the River Tees,—that “a Cleveland horse of the old race has neither *blood* nor *black*.” The meaning of this is that, according to tradition, there are horses of the aboriginal tribe of Cleveland which have not been crossed with either the race horse or the cart horse,—the color of the old English cart horse being generally black. Burton showed me three mares,

two very old, which he said were of the unmixed ancient race, and I afterwards saw one on the estate of Stewart Marjoribanks, Esq., M. P., in Hertfordshire. Though very highly valued by their owners, I thought they needed some refinement for quick work. Burton has bred his exclusively to pure blood horses of the most superior style—latterly to a brown horse called Postemper. Rubens, mentioned in the letter of the Inspector General of the Agriculture of France to you, the finest horse Shaw says he ever owned or saw, who, of the coaching or carriage stallions, received the first prize of the Royal Agricultural Society, was bred in this way. This prize was a “local prize” of £30, awarded at the York Country Meeting in 1848, celebrated for the finest show of horses ever brought together in the Kingdom.\* At that time there was a distinct prize for a “Cleveland stallion.” The Yorkshire Agricultural Society, I am informed by Mr. Watson, the Assistant Secretary, only award prizes for “coaching or carriage horses;” but allow the old “Cleveland” to compete in the same class. The distinction now abolished, but which was formerly drawn, for the purposes of premiums, between a “coaching” stallion and an old “Cleveland,” was that the former was derived from an engrafting of more or less of the blood of the racer on the original British stock of the vale of Cleveland, while the latter, according to tradition at least, was not, within the memory of man, of mixed lineage. At present coaching stallions are frequently called Improved Clevelands or New Clevelands. Low (recently Professor of Agriculture in the University of Edinburgh) contends that all Clevelands were formed by the progressive mixture of the blood of oriental horses,—not directly, but through the intervention of the English thoroughbred,—with that of the native parent stock of Cleveland. He, with several other

\* W. C. Rives, Esq.

\* See Journal of the Royal Agricultural Society.

writers, asserts that the race horse is of mixed lineage, and says, "The basis [of the race horse] was the ancient horses of the country, which were modified after the Norman conquest by progressive changes, and at length by a large infusion of the blood of the horses of Africa and Western Asia. The mixed progeny thus formed being made to breed only with one another, or with the races of the East, to which they were already allied in blood, have assumed the common characters of a race." While it is certain that every modern race horse may be traced back to some Arabian, African or Turkish ancestry, or all three mixed, (assuming that they are sub-varieties of one and the same race,—a doubtful point,) I am not satisfied there is any evidence that Eastern mares were imported with or soon after the first stallions, so as to furnish an uncrossed breed. But I do not intend to discuss the vexed questions of the origin of breeds or the unity of species at a very remote period or the beginning of time.\*

The female progeny of an "old Cleveland mare,"—one at all events in which the native blood of Cleveland, if not pure, is largely in excess,—by a thoroughbred horse, Burton breeds to a stallion, in whom the blood of the race horse and that of the old Cleveland bay,—the latter predominating,—have been well intermixed. The descendants, formed in this or a kindred manner are then bred with one another for successive generations to produce the breed of the New or Improved Clevelands, and to establish and maintain constancy and permanency in their characters. In order further to fix the type when the dash of blood is not remote, breeding in-and-in is occasionally resorted to, but to a very limited extent. I have been thus particular in describing Burton's practice, for, from the number of stallions he owns and travels, he must exercise a marked influence on the breeding of Yorkshire.

Among Burton's New Cleveland horses, I saw two stallions of high repute, both by Rimphon, (now the property of the King of Prussia,) who was highly commended by the Royal Agricultural Society of England in 1848, and mentioned by the Inspector General of the Agriculture of France in his letter to you. They are magnificent animals, standing with shortish legs sixteen hands and one or two inches,—the favorite height.† One of these

\* "England's breed" of men, now very distinct, was formed by the successive coamingling of a great variety of races. Its tongue owns a cross-bred origin.

† Some blood horses get up to sixteen hands, though in that case they are prone to be too slim bodied and leggy, or, as the English say, too slender timber.

stallions, Aristocrat, particularly conformed to a Yorkshire criterion of excellence, in being short on top (that is in the back) and long underneath. Your Cleveland horse's half brother on the dam's side,—*le poulain énorme*, mentioned by M. Ste Marie,—was bought by the Queen of Spain. Before the war, the Emperor of Russia annually purchased coaching, as well as blood horses, in Yorkshire, chiefly through Mr. Kirby, to whose stables Burton has succeeded. It is universally admitted in Paris that all the finest horses for the carriage (*carrossiers*) and for *private* vehicles, from the Emperor's down, of every description,—excepting our American trotting wagons,—as well as for the saddle, the chase and the turf, and for the service of the officers of the army, come from England. These facts in connection with the importations of the French government for the stud (*haras*) sufficiently attest the pre-eminent esteem in which the coaching horses of England are held in the various countries of Continental Europe.

I was exceedingly struck with the certain and harmonious result of mixing the blood of the racer with that of the Cleveland Bay in any proportion,—a result which may be owing to the fact, if Low's supposition be correct, that the two breeds have been for a long time allied, and may, therefore, be further brought together without any violence in crossing. I found that the *Hunters* in the neighborhood of Ripon (where some of the most prized horses in England are reared) owed their stoutness and power to a dash of the Cleveland blood, on the part of the dam more commonly.\*

\* While the more general practice in crossing in Yorkshire is to have the superior size of race on the side of the mare, on the doctrine that there would not otherwise be sufficient room for the uncramped development of the fetus and for facility of parturition, Spooner prefers the converse course in breeding, as tending more to refinement; and Stephens, if my memory serves me, likewise discredits generally the theory of the dependency of the size of the fetus on the size of the sire, instead of its depending exclusively on the capacity and functions of the organs containing and nourishing it, by a provision of nature, (as in the case of an over-fat and, therefore, inwardly contracted female,) while he admits that, after it has come into the world, it tends in growing to approach or attain the dimensions of the larger parent. It does not follow that a small foal will be a small horse; and frequently animals of great size are the issue of small females by large sires, and were small, comparatively, at the date of their birth. M. Malingié Nouel,\* who founded the celebrated French race of sheep, *De la Charmoise*, by crossing heavy imported Kentish (Romney Marsh) tups on ewes, of mixed indigenous breeds, less than a fourth of the

Some tenant-farmers in Yorkshire keep two or three mares of the old or new Cleveland race as animals of all work, and at the same time with a view to profit in rearing *horses* for London use, or *mares* for which there is a great demand, under the general denomination of "Yorkshire mares," for breeding purposes, in most parts of the Kingdom.

2. Hunters at this day do not exist as a distinct *breed*. All stallions exhibited at the Lincoln Country Meeting of the Royal Agricultural Society, as adapted to get Hunters, according to the terms of the *special* prizes offered, were thoroughbred.

3. The third class embraces Roadsters, whose merits I was perhaps not in the best condition to appreciate, having just seen the much more stately and imposing Clevelands, and Flying-Dutchman, Chanticleer, and other renowned *thoroughbreds*, at the Rawcliffe Paddocks. Roadster, in Yorkshire, is the synonyme of Nag; and I infer from an account of the last Yorkshire Agricultural Society's meeting, from what Burton told me, and from other sources, that it is likewise the synonyme of Hack or Hackney, as the term is frequently used in that part of England by the tenant-farmers. It is alleged that the Roadsters constitute a distinct breed. The trotting horses of the county of Norfolk, I should judge from the specimens I saw, are a family or sub-variety of this Roadster race, which is probably a modification and improvement of the best character of the old English pack horse. The Roadster is a plain, strong, compact and rather low horse, not exhibiting in his appearance indications of any share of oriental lineage, and very frequently having cloven quarters (*croupe double*) like the Cart Horse. His only smart action is a trot. He bends his knees and lifts up his feet, throws them out and puts them down well in this gait. I saw none of this breed except stallions and mares, at York, stallions at the Royal Agricultural Society's meeting at Lincoln, and a mare, called a Roadster, of the Messrs. Hall at Dud-

weight of the tups, states that in over two thousand cases but one single accident was occasioned in yearning by the size of the lambs, and yet after their birth they grew so rapidly that before they were weaned they had become larger than the ewes. No one who visits the great market of England of live stock for the shambles,—Smithfield,—can fail to be struck with the vast preponderance of cross-bred animals. Their male parents are, in most instances, of the very largest races, for example, Short-Horn bulls and Cotswold and Leicester tups. This, compared with the reverse method in breeding, has superior economy, for a breeder can keep more good small animals on the same ground than large ones, and the breeding females are in the proportion of sixty to one of the males.

Hill, used by them for *driving* to cover, in the hunting season.\* This last animal is a capital trotter and a good "stepper," but exceedingly plain in appearance. The Roadster was formerly and is still chiefly used as a *tenant-farmer's* (not a landed proprietor's) saddle horse, but not without being called upon occasionally to do light work in harness,—for example, in a gig, drosky, or light marketing vehicle. He is a degree above the Cob, (*double pony*), who, I suppose, is the accidental result of crosses between sturdy pony stallions and small cart mares, or mares of the old Paek Horse English race. The Roadster I take to be the substitute of the old Road Horse, of whom Low spoke in 1840 as follows: "Not only has the system of public conveyance by coaches called forth a lighter and more agile race of horses, but it has acted in another way on the saddle horses of the country. By altering the mode of performing journeys it has *diminished* the inducement to cultivate particular kinds of horses. Few persons now make distant journeys on horseback, and are willing to travel at the rate of five miles an hour when they can be carried forward at the rate of ten or more. A horseman with his load of saddle bags is now almost as rare a sight as an elephant. A class of saddle horses, accordingly, formerly used for journeys, has now almost disappeared. They were termed *Road Horses*, and were suited to their employment. They were strong, useful and safe, but had little or no breeding. Their paces were the walk and trot; and the canter and the gallop were nearly as much out of place with them as with the Cart Horse. The Cob, too, a little squat horse fitted for drudgery, is with some difficulty to be procured. For the shorter journeys now in use, and for all the usual services of the equestrian, animals of lighter form and more easy paces are preferred, and few habitual riders are satisfied with horses that have not more or less of breeding."

I also quote below what the same author says of the Hackney,† expressing, however, my dissent from his description, if it were intended to apply at the present day, unless he means the tenant-farmer's Hackney, *alias* Roadster, *alias* Nag, for now the pleasure hack or the park hack has generally fully as much breeding as the Hunter, (if not more,) and height also frequently, and would probably be used as a hunter or harness horse if he had sufficient "stoutness," which is strength coupled with

\* The more usual custom is to ride "Hacks" to cover.

† This word is doubtless derived from the French *Haquene*.

constitutional vigor, bottom and general powers of endurance.\*

"The term Hackney, in common use, is employed to denote a kind of horse fitted for general services; and is, therefore, understood to exclude the horses of the highest breeding, as the Thoroughbred horse and Hunter; and there is further associated with the idea of a Hackney, an animal of moderate size, not exceeding fifteen hands, and possessing action, strength and temper." But he adds—"The Hackneys of the present day [1840, and much more so in 1855.] are of lighter form than those formerly sought for, and there is greater difficulty in obtaining them to suit the services required from our present mixed varieties of *half-bred* horses, than when horsemen were contented with the older class of Hackneys of stouter form but inferior breeding." It is important to bear in mind that Low, in the passage just cited, means part-bred by half-bred, and that the English apply the term half-bred to every horse with any degree of breeding, no matter how minute, if it be appreciable, nor how great, provided it be short of full blood.

The term *saddle-horses* sometimes signifies only Haeks,—no body now-a-days taking the trouble to say Hackneys,—but it is commonly employed in a more general sense to embrace Hunters and Chargers as well, but not Race Horses, although they go under the saddle on the *turf*. Horses for the *field* or the chase are Hunters. Horses used only for *road* purposes under the saddle, or for road riding in contradistinction to both field-riding and turf-riding, are Haeks. The most showy and elegant variety of Haeks are called Park Haeks, the nobility and gentry of the British Empire riding them in Hyde Park in Rotten Row during the London season. Harry Hieover,† if I recollect rightly, divides Haeks into three classes, and gives his opinion of them respectively, in substance, as follows:

"The thoroughbred or, nearly thoroughbred Hack," whose trot is nothing to boast of, and whose chief gaits are the walk, canter and gallop. This is, according to the English phrase, a most "gentlemanly horse" in appearance.

"The general Hack," not so highly bred as the foregoing, but with general paces,—one who canters and gallops well but does not "slip along" like the thoroughbred or nearly tho-

\* On the turf stoutness is used in contradistinction to mere speed; and it is applied to a horse who can run and win long races, and many of them to an advanced age, with heavy jockeys, on deep ground, and, if need be, make his final brush with advantage up hill.

† Practical Horsemanship.

roughbred, and also trots well, but not like the Trotter or Trotting Hack, next to be mentioned. This is quite a gentlemanly-looking animal, and entirely a gentleman's horse.

The Trotting Haeks or Trotters [resembling the Yorkshire Roadsters] differ a good deal in their breeding, but are not as highly bred as the first two classes. Harry Hieover evidently thinks the riding a strongly pulling trotter at his fast pace presents a very vulgar and butcher-like appearance. He likes, however, fast trotters *in harness* in light vehicles, and considers their looks in action then not ungentlemanly.

Under all circumstances Harry Hieover unites with the French in condemning as abominable the gait of the amble or *pace* to which some of our Virginians at the present day are so partial.\* He complains of the term *Cob* as a hacknied one, and it is plain from his undercurrent of opinion that he dislikes the whole class of Cobs as ungentlemanly brutes. Cobs, from the docility and quietness of their tempers and their nearness to the ground (*près de terre*) are well adapted to the service of inactive and old men,—old fogies, as Young America would disrespectfully say. I remember to have seen Lord Lansdowne, among others, riding a Cob, taking care, however, to have the sorry figure he made redeemed, in a measure, by an attendant groom mounted on a horse of the most distinguished style.

The Rev. John M. Wilson‡ speaks of the Hunting Horse as the country gentleman's saddle horse, and of the Hack or Hackney as a riding or road horse of any kind. He adds—"The common saddle horse, technically a *Hackney*, may possess any character intermediate between that of a well-tempered, easy-going and long-enduring Hunter, and that of the most miserable road hack. The farmer's saddle horse is, in some instances, a Hackney, in some a Hunter, but in the great majority, a horse of all work, adapted equally to the saddle and to draught."

I have not the English or any unmutilated edition of Youatt, but I believe he speaks of "the farmer's horse," and describes him as half Hackney and half Cart Horse. He probably refers to a horse very similar in character to the heaviest Yorkshire Roadsters or the old Road Horses mentioned by Low. Cecil and other well known English writers, I think, employ the term Roadster in so vague a sense as to embrace every thing of the horse kind that can go out of a walk, and is used on the road, whether in harness or under the saddle, in con-

\* The best Virginia horsemen of the old school did not ride *pacers*.

† Rural Cyclopaedia—Edinburgh and London.

tradistinction to the field and the turf;\* and Nimrod occasionally employs the word road-horse as synonymous with stage coach horse. It must be confessed that there is much confusion in hippological nomenclature, partly in consequence of the modern change and continued advance to a lighter standard of all the classes and varieties of English horses for quick movement.

Although Yorkshire is the most decided breeding county of the Race Horse in the Kingdom,—the Rawcliffe Paddocks Company alone having the past season forty-three, and Sir Tatton Tykes thirty-seven, racing foals,—the Agricultural Society leave him out of view, (except as the progenitor of Hunters,) as having other patrons in abundance, and perhaps as not falling strictly within the description of a “useful” horse, and recognize but the three distinct classes of horses for service out of a walk which I have considered,—Coaching or Carriage Horses, Hunters and Roadsters; but you will have perceived that one of these classes, that of Hunters, is not a breed by itself.

4. The horses for agricultural purposes, the plough or the cart, in Great Britain, are incapable of any other than a walking draft, and are divided into the three following classes:

The Suffolk Punch horses are characterized by general uniformity of color, varying, however, in shade. In England they are called “red” and “chestnut;” but we should, for the most part, designate them as of a light yellowish sorrel, with lighter manes, tails and legs. They have often a blaze in the face and some white feet, and are very plain in appearance, being pig-eyed and having heavy, coarse heads. Their strong predisposition to the numerous hereditary diseases of the hock, and indeed unsound legs and feet generally, are such insuperable objections to the Suffolks, according to the old proverb of “no feet no horse,” that it would not be worth while to criticise them further, more especially as I believe I am entirely supported in this estimate by Mr. Yager, the competent and intelligent agent whom our public spirited friend, Mr. Dulany, despatched to England to bring over horses for him. I should infer—it is impossible to know—from a comparison between the Suffolks of the present day and the descriptions of the préexisting breed, that crosses upon the original stock of that name with a view to their elongation, to give them a more adequate stride, or enlargement for additional weight in the collar, had not in the aggregate result been successful, but had

caused them to lose much of their former energy and pluck. At the last Annual Country Meeting of the Royal Agricultural Society the Suffolk stallions were badly beaten.

The other English race of agricultural horses, usually designated the “Cart Horse,” is various in color, but more frequently black. The largest specimens are seen in the brewers’ drays in London, and, as you are aware, are the heaviest horses in the world. This race was, to a certain extent, modified by crosses of native stallions upon some mares which Bakewell imported from Holland. The horses of this breed, I presume, would be dissolved by our sun in summer, and are moreover only adapted to circumstances in which no sort of activity but merely massive power is required,—very smooth flat land and perfect roads and the slowest draught.

The Scotch horses, the Clydesdales, of different colors, are for us, I am satisfied, the best horses of the British Islands in the class of *exclusively walking draught*. It is a significant fact that the distinguished President of the Royal Agricultural Society of England, Mr. Pusey, employs them, and that General de Lamoricière\* states that, from experiments made in France, they despatched their work much more quickly than either the Suffolks or the indigenous races of France. They are handsomer and more active than the Suffolks, with longer limbs and longer bodies. This conformation gives them a greater stride by which they make more rapid progress, but it may augment the expensiveness of their keep. Tradition refers the origin of this breed to an importation, by one of the Dukes of Hamilton, of Flanders stallions which were crossed on the native mares of the county of Lanark, in the vale of the Clyde.

Though the French have occasionally imported British horses, which are larger than their own, for agricultural purposes, I found the universal opinion in France to be that they had nothing to envy the British in the way of horses for slow draught, (*gros trait*), and that they prided themselves very much on a valuable, hardy and energetic race, mostly of a gray color, properly called Percheron, from their native district Le Perche, but which our American writers have vaguely styled Norman, (as the synonyme of French, perhaps,) from the fact of having first seen them in the diligences in Normandy on the way to Paris. While many of the larger animals of this breed, which pass by insensible gradations into the Boulonnais, (the biggest and coarsest horse of France)

\* A “Roadster” in the northern portion of the United States is a horse used in a light pleasure vehicle.

\* Rapport au conseil des Haras

are used for the heaviest draught, the smaller and more agile are employed throughout the Empire in the diligences,—an intermediate draught (*trait intermédiaire—trait moyen*) which does not exist either in England or in the United States,—for the simultaneous transportation of passengers (with their luggage) and merchandise, at a pace between that of the English stage coach and the heavily laden wagon. To secure the requisite energy and quickness for this special and severe labor, it is necessary to employ stallions; and I do not believe that geldings,—from the peculiarity of the race in losing much of their power, spirit and endurance on castration,—would answer in our country except for slow work. Indeed, I never saw or heard of French gentlemen riding or driving Percherons; and I mention them only, because they may be deemed the archetypes of the French horses and are the dominant race employed in the public vehicles and in rural labor. The French prefer their horses for all private rapid uses (*chevaux de luxe*) to be of the blood of the *races distinguées*, which they are compelled to seek either across the channel or the Mediterranean.\* Crosses with Percherons vulgarize for many generations the English stock for quick draught (*trait léger*, by which is meant every draught from that of the coach or carriage inclusive to that of the lightest vehicle) and for the saddle, by shortening their necks, (which is fatal to a saddle horse and to the style of a harness horse,) by enlarging their heads, clodding their shoulders, drooping their rumps, elevating their quarters, putting hair on their legs, or otherwise marring their symmetry, beauty or activity.

[To be continued.]

For the Southern Planter.

#### REMARKS

*On the disputed question, whether the Growth of Sorrel is Prevented by the Soil being Made Calcareous—and on the facts adduced as opposing evidence.*

Some months past, there appeared in the Southern Planter a communication from Dr. P. B. Pendleton, of Louisa county, in which was opposed and condemned my doctrine of *acid soils*, and also questioned my position that the making of acid soils (or those so termed) calcareous, will prevent the growth of field or sheep-sorrel. This article has been republished in the last American Farmer, (February, 1855,) ac-

\* It is true that France, of necessity, imports a good many horses from Germany, not for the purpose of reproduction, however. They are not ill looking except that they frequently have the Roman nose, (*Tête busquée*), but it is said they soon sink under fatigue.

companied by another by the editor of that periodical, uniting in the strictures, and presenting other and more remarkable testimony to sustain his designed refutation of my positions, assumed in the Essay on Calcareous Manures. Deeming that I have already pressed upon the public notice these views of mine at as much length as the circumstances required, or would excuse, I had at first determined to make no reply to these strictures. And it is with reluctance now that I shall even partially depart from my first designed inaction. It is only as to my *facts* which are disputed that I propose to answer; and even this would be unnecessary if the actual results in question were fully known to the readers of the strictures. As to the theory of acid soils, or any merely theoretical opinions of mine, I shall say nothing more in their defence. They will be left to stand or to fall by what I have before set forth. If all that has been already adduced in their support is insufficient, I will not weary the public by repetition, or by attempting to furnish other and more convincing proof.

But while thus declining to argue in defence of any theoretical opinions, it is proper to remind my opponents, and their readers, that these views were formed on observations made entirely in the tide-water region; and so fearful was I of extending my doctrines farther than the observed facts authorized, that my assumed positions were limited in expressed and guarded terms, to the tide-water region of Virginia. The preface to the earliest separate publication of the essay in question, commenced with the following saving clause, and which has been republished in every succeeding edition:

"The object of this Essay is to investigate the peculiar features and qualities of the soils of our tide-water district, to show the causes of their general unproductiveness, and to point out means as yet but little used, for their effectual and profitable improvement. My observations are particularly addressed to the cultivators of that part of Virginia which lies between the sea coast and the falls of the rivers, and are generally intended to be applied only within those limits. By thus confining the application of the opinions which will be maintained, it is not intended to deny the propriety of their being farther extended. On the contrary, I do not doubt but that they may correctly apply to all similar soils, under similar circumstances: for the operations of Nature are directed by uniform laws, and like causes must every where produce like effects. But as I shall rely for proofs on such facts as are either sufficiently well known already, or may easily be tested by any inquirer, I do not choose to extend my ground so far, as to be opposed by the assertion of other facts, the truth of which can neither be established nor overthrown by any available or sufficient testimony."

These sentences certainly and strictly should confine any controversy on my propositions to facts and proofs furnished within my own prescribed limits. My reasoning should be met by opposing facts within these limits, and not drawn from "Middle Virginia," in which Dr. Pendleton maintains that such opposing facts, of vegetable growth, &c. are presented. But while I claim to have thus limited my assumed ground, in re-

gard to known facts, and strict reasoning therefrom, it is readily admitted that I had also inferred (and still infer,) that the same doctrines will apply elsewhere, under like conditions of soil, &c.; and that like facts will appear as the effects of the like causes, in any other locality. The difficulty is to know when the conditions or causes are alike, or the same—and whether the assumed facts and premises are correctly and fully known, or otherwise have been incorrectly observed, and are, therefore, mistaken in their operation; and their report, as evidence, of no value whatever. It is entirely proper and legitimate that inquirers, or doubters of my propositions, should apply my proposed tests of soils in other regions—and if finding different results, to declare that my doctrines were not sustained by the facts in that locality. But it is not legitimate reasoning, to apply views designed especially for and limited to one region, to another very different in important characteristics. If my alleged facts are false, or questionable, they should be assailed, and their weakness exposed. But it should be by conflicting facts and testimony furnished in the same region. Of facts and testimony on the subject, there is no scarcity, among the hundreds of experienced marling farmers in lower Virginia. Among all these, I doubt whether one can be found who will not fully confirm the particular position which the supposed facts of Dr. Pendleton and the editor are brought to disprove—which is, that sufficient marling (and, by necessary inference, also liming,) will speedily destroy the growth of sorrel, and also render the land incapable of producing that plant. And if it be required to know what I mean by “sufficient” marling or liming to produce this preventive effect, I answer, that it is not any certain quantity, but just so much as will leave everywhere in the soil, after thorough intermixture by tillage, the smallest excess of remaining and free carbonate of lime. If correct analyses of soil, after marling or liming and sufficient tillage processes for thorough intermixture, will truly exhibit a general remaining ingredient of carbonate of lime of but one-fourth of one-hundredth part of the tilled soil, that soil, (as I believe) will be sufficiently calcareous to prevent the growth of field or sheep-sorrel.

It is true that there may exist in print little or no direct testimony, other than my own, maintaining this opinion in the general; and it is so, precisely because there are no persons in the marling region to question the fact asserted, or to require its further proof by additional evidence. If some one were to assert that manuring was injurious to the growth of tobacco, it may be doubted whether Dr. Pendleton could prove the contrary by adducing existing testimony to maintain this fact of universal admission, and which, as no one of any experience or knowledge on the subject had ever questioned its truth, so no one had deemed it necessary directly to affirm it. However, Mr. Willoughby Newton, in his review of the *Essay on Calcareous Manures*, (published in *Southern Planter*.) though not deeming it required to affirm directly

my opinion in regard to lime destroying sorrel, does so incidentally and fully to the purpose—and would seem to rely, for the producing of this effect, on much smaller quantities of lime than I have usually applied in the form of marl. I could not refer to any witness on the subject whose opinions, founded on practice and experience, are entitled to or will command more respect, than this distinguished and successful liming farmer.

I have additional reason to protest against my views being tested by such facts (of the growth of sorrel) as are adduced by both my censors, because of my personal experience of how imperfectly and incorrectly similar facts have been observed, and, therefore, incorrectly reported, and applied to this question. Long ago, when the doctrine of lime preventing the growth of sorrel was novel, and was doubted by many, I have heard of many particular and limited facts of the growth on *apparently* well limed, or calcareous soil—and also have seen and investigated some of the most remarkable of such facts, and apparent contradictions of the doctrine referred to. But every such fact of apparent exception that has come under my personal observation was susceptible of explanation, so as to show abundant reason why the supposed contradiction, though apparent, was not real. In Prince George county, where many such supposed contradictory facts have been noticed, and served at first to strengthen doubts, probably not a single marling farmer, at this time, could be found to question the truth of the rule that sorrel is certainly destroyed by sufficient marling. When, after marling or liming, sorrel still grows generally over the land, the fact merely indicates that there had not been applied enough lime to combine with the acid, and then to leave the least surplus of free lime, or carbonate of lime. If on land certainly well or sufficiently marled or limed, on the general average, sorrel still grows, and ever so luxuriantly, on particular spaces, it is owing to irregular spreading of the manure, or want of its thorough intermixture with the soil by subsequent tillage. A field generally may be too heavily and injuriously marled or limed, and yet any small spaces, left unsupplied by irregular distribution, would produce sorrel as freely as before. Further, I and many others have seen, and at first with astonishment, sorrel growing vigorously on heaps of highly calcareous marl, which had been dropped, and remained for some months before being spread, on sorrel-producing land.\* No stronger opposing cases, in appearance, could be presented. Yet these strougest apparent contradictions, when carefully scrutinized, so far from disproving the existence, afforded additional confirmation of the antagonistic qualities of marl and sorrel. I found, on examination, that plants so growing sprang out of the natural soil below.

\* Two different communications, from correspondents, of such facts, were published in different parts of the *Farmers' Register*, accompanied by the investigation of similar facts, and explanation of the apparent contradictions, by the present writer.

The covering of ground with a heap of marl, six or more inches thick, did not intermix with or affect the constitution of the covered soil—and could not, until the marl was scattered, and not effectually until after tillage. The hardy plants, springing in the still favorable (i. e. acid) soil below, pushed upward through the marl, as through a mere inert and mechanically opposing mass of matter, without leaving in the marl a single *living* lateral rootlet, or deriving from it the least supply, whether nutritive or poisonous. But however numerous have been these and other apparent exceptions and contradictions to the rule, there is no agricultural fact or rule better established in the now widely extended marling region of Virginia, than that sorrel always disappears, speedily and entirely, from properly marled lands. Lime, different from marl, is applied in light dressings, and never enough at the first time of application, and, therefore, will rarely at first make an acid soil calcareous, even to the least excess of remaining free lime. Therefore, sorrel would not be always removed by one application. But I maintain, and no one will deny, that lime, when serving to make soil equally calcareous, must have the same effect on sorrel as marling.

It is not for me to judge of the opposing facts stated by Dr. Pendleton and the editor of the *American Farmer*, as reported from their own observations—and still further removed, and less capable of being tested, are those reported to them by other and anonymous witnesses. But, if properly scrutinized by the actual observers, I am confident that all these reported cases of contradiction would have been found to be of as little value for evidence, as were all of the many other cases referred to above, as within my own reach of observation or scrutiny.

But besides the many such alleged and mistaken facts, and *things* correctly named but misunderstood, which serve to confuse inquiry and mislead deductions, there are other prevalent errors in *names* which cause even true and correctly observed facts to mislead and deceive. The common sorrel, *Rumex acetocella*, so far referred to, is called *sheep-sorrel* in lower Virginia. Another kind (which, however, is *not* of the "same family," as Dr. P. supposes,) *oxalis acetocella*, is there called horse-sorrel. The former has leaves shaped like narrow and barbed arrow points—and its growth indicates land destitute of carbonate of lime, and deficient in lime of any kind. The horse-sorrel is a trefoil and pod-bearing plant, and its general growth indicates a good soil, naturally rich, or otherwise highly calcareous. Yet in many cases, these two very different plants, are confounded by their common name, and facts in regard to one are applied most erroneously to the other. Still worse—I have recently learned that in some parts of upper Virginia, these two vulgar names are reversed. This confounding, and still more the exchange, of these names would alone be enough to throw the discussion of the subject into utter confusion in regard to facts asserted by witnesses applying the names differently.

Again: Pines readily and certainly form the entire second growth of nearly all the exhausted fields, turned out of tillage, in the tide-water region; and also on much of the like lands of the next adjacent higher region. These trees are in both regions termed "old-field" pines. Yet it is a remarkable fact, which however obvious and plain, is not known or observed by many persons, that the "old-field" pine, which makes the almost universal second growth of the exhausted lands of the tide-water region and a little higher, is a different species from the pines as generally covering old fields still higher up the country—as, for example, in Cumberland county, where my attention was first drawn to this difference. The second-growth pines there all are of the same species of the first or forest growth of both that and the tide-water region—i. e. the "woods" or "pitch" or "yellow" or "short leaf" pine, (*pinus variabilis?*) The "old-field" pine of the tide-water (*pinus taeda?*) has longer leaves, larger cones, and is almost wholly of sap-wood. Further, on our yellowish clay soils, originally of more fertility than the ordinary and more sandy soils on tide-water, the second growth is as generally of pine, but of still a different kind—the "spruce," "river" or "cedar" pine, (*pinus inops?*) having the shortest leaves and smallest cones of all here named.

Now, as the seeds of all these kinds must be carried far by the winds, and plentifully diffused everywhere, the almost entire possession of some lands by either kind, and exclusion of the other kinds, in the same climate and like exposures, must indicate different chemical constitution of the soil, or very different conditions as to production. My observations of soils, &c. were made, and views as to their improvement were deduced, in the region where our "old-field" pine (*P. taeda*) was the almost exclusive second growth. I deduced the opinion (which remains unaltered,) that wherever the "old-field" pine thus grew, generally and vigorously, that lime was certainly and greatly deficient in the soil, and that its application would certainly cause speedy and great improvement and increase of fertility. I went farther, and still maintain, that nothing else, without lime, would there effect profitable and enduring fertility. Still farther, I maintained that on such soils, without liming or marling, clover could not be grown successfully, and that gypsum would have no effect. But I freely confess that I erred in too much generalizing my indications and rules, and erroneously inferred the same to be strictly true as to pine-bearing lands in general. I did not then know that the "old-field" pines so plenty on the red lands of some of the counties of mid-land Virginia were of a different species—that those lands refused to bear *our* "old-field" pine—and also I have since learned that clover succeeds there, and gypsum generally operates well, and that lime has rarely been found beneficial, on these higher pine-bearing, as well as other lands of that region. Such were my mistakes, caused by too limited observation, and too hastily reasoning from particular facts to general



laws. There is much yet to be learned from observation on these and connected subjects, and on which, correct observation would learn, as furnished by the trees and other plants growing most freely, indications of the peculiar chemical conditions and wants of different soils. It would be very interesting to have observed and made known any such facts—and especially the irregular line of division (which is not identical with, but somewhere above, the line of the falls of the rivers,) between the regions of the two different “old-field” pine-second growths—and whether this line is, or is not, identical with that which separates the lower lands improvable by lime and not by gypsum, from the upper lands improvable by gypsum (in many cases,) and rarely, as it is reported, by lime. I invite Dr. Pendleton, and every other competent agriculturist, residing near to these lines of separation, to observe and report upon these facts.\* I am attempting to pursue this investigation, and will be glad to add my contributions to those asked for from other observers.

Until recently, I had known almost nothing of the facts just referred to, of the region above the falls; and my personal observations have been very limited even since their being so directed. Scarcely any satisfactory information is to be derived from foregone observations, by inquiries, because scarcely any one has noticed these differences with care or correctness. But even from my previous very slight and general means for information, and with scarcely any aid from personal inspection, I had reached the conclusion that there existed important and general differences in the chemical constitution of the soils below and those far above the falls of the rivers, in regard to the proportions of lime contained naturally—and, inversely, their degrees of want of applications of lime—and also of the relative capacities of the lands of these different regions to be enriched by aid of gypsum, and by putrescent manures, without previous liming. These views were stated generally and concisely, but distinctly, in the last (5th) edition, pages 160, 161 of the *Essay on Calcareous Manures*.

EDMUND RUFFIN.

Marlbourne, Feb. 7, 1855.

Penny and penny laid up will be many.

\* To aid new observers of the desired facts, of the presence or absence of different kinds of pines, I will offer the most certain marks of distinction of the species common in either lower or middle Virginia. The “old-field” pine of the lower country, (*P. taeda?*) has leaves growing three together in each sheath. The “yellow,” “pitch” or “woods” pine, (*P. variabilis?*) and the “river” or “spruce” pine, (*P. inops?*) have their leaves growing two in a sheath. These last two differ so much in general appearance, that no observer can mistake one for the other. The only other pines in lower Virginia, are the “slash” pine and the “long-leaf” or Southern pine. The last is seen only on part of the southern margin of Virginia—and the preceding grows only in ponds or wet and poor forest land. The long-leaf pine (*P. palustris* or *australis*) has its leaves three in a sheath, and also, I believe, the slash pine (*P. serotina?*)

#### A GOOD PLAIN CURRY.

Cut up undone or fresh veal, rabbit, or fowl; if the latter, take off the skin. Roll each piece in a mixture of a large spoonful of flour and half an ounce of curry powder. Slice two or three onions, and fry them in butter, of a light brown. Then add the meat, and fry all together till the meat begins to brown. Put all into a stewpan, pour in boiling water enough to cover, and simmer very gently for two or three hours. A little broth is used instead of water, for cooked meat. Serve with plain boiled rice.

#### APPLE JELLY.

Wash and cut the apples in two or three pieces, to see if there be any worms in them; put them in a bright brass or porcelain lined kettle, and cook until the apples are done; take out and strain the juice from them, and put them on the stove again, and boil until they begin to look dark; then add one-third as much sugar, by weight, and boil until they become a jelly; put into cups or tumblers, and tie paper over the tops. This is excellent for making jelly cakes. Try it.—*Ohio Cultivator*.

[Published by order of the Executive Committee.]

Washington College, Lexington, Va. }  
October 27, 1854. }

To the Committee of the Virginia State  
Agricultural Society on Written Essays, &c.

Gentlemen,—I herewith send you a report of some investigations made on the potato, so far as those investigations have been completed. Had there been time after the maturity of the potato crop, I would have given you a complete analysis of both the specimens examined; but I have been under the necessity of confining my examinations to those ingredients of the ash, most likely to be materially influenced by the fertilizers employed. If you do not consider my labors worthy of one of the premiums offered please hand the manuscript over to the editor of the Southern Planter, as a communication to that paper.

Very respectfully,

Your obedient servant,

J. L. CAMPELL.

Prof. Chemistry Washington College.

ON THE INFLUENCE OF ASHES, GYPSUM AND COMMON SALT ON THE CHEMICAL CHARACTER OF THE POTATO.

In the spring of 1852 I applied to a certain portion of a small lot of potatoes, a mixture

of wood ashes, gypsum and salt—using four bushels of leached ashes, one bushel of gypsum and half a gallon of salt. The application was made soon after the tops began to make their appearance above the surface of the ground. Only a part of the lot was treated with these fertilizers, while in all other respects the whole was cultivated alike. The part to which the fertilizing mixture was applied, produced not only a more abundant crop than the other, but potatoes of much better quality.

This led me to try a similar treatment of the greater part of my little crop in 1853. The preparation in this case was varied, by using a gallon of salt instead of half a gallon. The application, too, was somewhat modified. To one portion, it was applied directly to the tubers when planted; to another portion it was applied on the surface after the tops had appeared above ground. The result this year was more satisfactory than it had been the year previous, although the season was unfavorable. There was, however, no perceptible difference between those having the fertilizers applied at the time of planting and those having it subsequently applied on the surface of the ground.

Such was the effect of this mode of treatment upon the growth and quality of the potatoes, that I resolved to subject to a chemical examination, specimens cultivated both with and without the application of these fertilizers. This was prevented, by unavoidable circumstances, until recently.

In the spring of the current year, (1854,) I prepared for potatoes two small plots of ground, both alike in character and fertility, but both of a stiff clay soil, unfavorable to a good crop. After the ground had been broken up, trenches were opened  $2\frac{1}{2}$  feet apart, and about 3 or 4 inches deep. The potato tubers were drilled in the bottom, and the trenches then filled up with a mixture of broken straw and stable manure. Over this the mixture of ashes, plaster and salt was applied on one of the portions of ground, at the rate of about twelve bushels per acre; while it was entirely withheld from the other portion. The subsequent cultivation was the same in both cases. The resulting crop was about as one to five in favor of that to which the mineral fertilizers were applied.

I deem it unnecessary to give farther details, as to the mode of cultivation, results in quantity, &c. as the object kept chiefly in view was a chemical investigation. This investigation is not yet as fully carried out as I desire, and intend it shall be; but I have thought that the results, as far as attained, might possess some

interest in the mind of the intelligent agriculturist, and probably lead directly to more extended and more accurate practical experiments.

Specimens of the tubers cultivated under both the modes of treatment above given, have been examined—1. *With respect to the quantity of water contained in each*; and, 2. *With respect to the influence of the fertilizing mixture employed, on the relative proportion of certain inorganic elements.*

For the sake of brevity, we will designate the specimen cultivated with the mineral manures by the letter A, while we will call that cultivated with organic manure alone, B.

The specimen A, carefully cleaned, cut into thin slices, and dried at the temperature,  $212^{\circ}$  Fahrenheit, lost 77.50 per centum of its weight; showing the presence of that proportion of water not combined chemically with other substances. The specimen B, dried in the same way, lost 82.20 per centum of its weight. Thus A was found to contain nearly five per cent. more than B of the solid, nutritious, valuable part of the tuber; that is, of starch, gum, &c., which make the potato valuable as an article of food.

After being thoroughly dried, A yielded 4.15 per cent. of ashes; while B yielded but 4.00 per cent.

When brought under analysis the ashes of A and B were found to vary considerably in the proportions of some of their elements. They have been examined only with respect to the relative quantities of *potassa*, *soda*, *sulphuric acid* and *chlorine* contained in each. It will be remembered that wood ashes afford, even after ordinary lixiviation, an abundance of *potassa*, together with several other valuable fertilizing substances, as *lime*, *phosphoric acid*, &c. *Gypsum* gives an abundant supply of *sulphuric acid* and *lime*. *Common salt*, (the chloride of sodium,) is the source of chlorine and soda.

It is unnecessary to give the process of analysis in full detail, as it was that ordinarily pursued in such investigations. Solutions of like portions of the ashes of A and B, carefully weighed, were made in dilute hydrochloric acid. From these solutions every thing, except the chlorides of potassium and sodium, was separated by the use of solution of baryta, and afterwards of ammonia and carbonate of ammonia. The solution containing these was evaporated to dryness, the residuum ignited and weighed. The chloride of potassium was then separated and weighed as platino-chloride of potassium. The remainder, after subtracting the weight of the chloride of potassium thus

determined, from the original weight of the mixed chlorides, was regarded as giving the quantity of chloride of sodium. From these chlorides, the quantity of potassa and soda may be readily deduced.

The sulphuric acid was separated from solution with chloride of barium, and weighed as sulphate of baryta.

The chlorine was obtained from solutions in very dilute nitric acid by precipitation with nitrate of silver, and estimated from the resulting chloride of silver.

The following table will present at once a view of the results obtained by the above investigation, together with the results of analyses made in other parts of the world. The figures represent the proportions of the several substances obtained from 100 parts of the ashes. The columns marked A and B give the results comparatively of the analysis of the two specimens under consideration. The numbers in the third and fourth columns are taken from Johnston's and Norton's Agricultural Chemistries respectively.

100 grains of Ashes gave—	A	B	Johnston's	Norton's
Of Potassa .....	50.91	49.75	55.70	51.50
Of Soda .....	3.49	.65	1.90	a trace.
Of Sulphuric Acid .....	9.60	6.27	13.60	7.10
Of Chlorine .....	3.30	1.98	4.20	2.70
	67.30	58.65	75.40	61.30

*Inferences.*—From the relative quantities of water found in the above specimens, we may infer,

1. That the presence of *inorganic fertilizers* has an influence on the character of the *organic* part of the tubers.

2. We may infer that the inorganic part of the potato may vary considerably, according to the excess or deficiency of certain elements, not generally abundant in soils that have been long under cultivation.

3. We may infer the advantage of applying near to the root of the growing potato those substances taken up by it in considerable quantities.

*Remarks.*—1. The quantity of phosphoric acid found in the ash of the potato, points to *bone earth* and other *phosphates*, as a useful addition to the mixture used in the foregoing experiments, especially on soils which have been much exhausted by the growth of wheat and Indian corn.

2. Wood-ashes afford an appreciable quantity of soluble silica, and render soluble some portions of that already existing in the soil. This gives a healthful growth to the stems, and probably has the effect of preventing some diseases. Diseases having their origin in the

stocks of plants, often reach both the root, as in the potato, and the grain, as in the rusting of wheat.

3. It should be stated that the variety of potato used above, was that known here as the "long red." This variety contains a larger per centum of water than is found in other varieties generally, when maturely grown. Potato tubers contain more water, too, in a dry than in a wet season. This is owing to their imperfect growth. This result, however, may obtain in an extremely wet, as well as in an extremely dry season; the cause being in both cases *immature growth*.

J. L. CAMPBELL.

Lab. of Washington College, Va., Oct. 1854.

LIVE AND NET WEIGHTS OF MUTTON.

The following are the live and net weights of the slaughtered mutton, exhibited at the Maryland State Agricultural exhibition, in October, 1854. The slaughtered mutton were weighed and exhibited with the head and feet on, and 7 lbs. is deducted from the weight of each one, for the head, and feet taken off just below the knee, and is believed to be a full deduction:

	Age.	Live weight.	Dead, with head and feet.	Net, head and feet off.	Rate per cent. of net to live weight, head and feet off.
Thomas Hughlett's Cotswold .....	18 months	182½	120½	113½	62 per cent.
Mr. Meade, of Virginia, Mixed Breed .....	3 years	160	108	101	63 per cent.
A. Castleman's Cotswold and South Down ..	4 years		136	129	
M. T. Goldsborough's South Down .....	3 years	183	131	124	67¾ per cent.
William Reybold's Oxfordshire .....	2 years	195	127½	120½	61¾ per cent.
J. N. Goldsborough's Cotswold .....	2 years	165	124½	117½	61¼ per cent.

The above weights were accurately taken on the ground, by the exhibitor of Fairbank's Scales.—*American Farmer.*

For the Southern Planter.

DR. BALDWIN'S SHADE THEORY.

In the Southern Planter for the 9th month (September) last is an essay by R. T. Baldwin, of Winchester, headed "Eleven Chemical Changes." This essay is intended to advocate the Doctor's theory of shade, as the best means of improving land, and most worthy of the attention of "practical farmers." While giving full credit to his practice as a farmer and one that has done much in improving his land, we may be permitted to call in question the soundness of his theory. Some may say, no matter what his theory is if his practice is good, but he gives us his theory instead of his practice; and as the one without the other may mislead others, the design of this essay is to induce him to give his practice.

The substance of his theory is contained in his last paragraph: "That the surface of the earth itself when closely covered with any substance whatever, will readily undergo a chemical change is plainly manifest, for it is changed in color, consistency and fertility," &c. That the vegetable or organic matter in a soil will undergo "a chemical change," is doubtless true, but that the inorganic materials in such soil will do so is by no means certain. For a soil destitute of vegetable matter will not undergo any "chemical change," however well it may be shaded. Why is not the soil just below the depth of the plough not made rich? It is "in a close, cool, damp and dark location." It may be replied that it has not a proper contact with air, but organic matters placed in such a situation will undergo "a chemical change," though not perhaps as rapidly as if placed nearer the surface.

This essay of the Doctor's is too theoretical; too much in technical language; too much as if he wanted to show his learning. To be readily understood by the generality of "practical farmers," we want something that we can easily comprehend. He "begs leave to present his individual opinions without reference to those entertained by scientific writers." This is well enough. A man should examine for himself and entertain his opinions, and should be allowed full liberty to express them; but when he gives them to the public, and they conflict with the opinions of others, he may very properly be called upon for evidence in their support. "Of eleven chemical changes enumerated by chemists to which vegetable and animal substances are subject during their decompositions," he enumerates, as "most important," fermentation, eremacausis, combustion and putrefaction, as four distinct and peculiar "chemical processes, because they require different circumstances to produce them, and leave products entirely dissimilar." He describes "decay, decomposition, eremacausis," as "that chemical change which all animal and vegetable matter undergo when exposed upon the surface of the earth to the vicissitudes of the weather," and says "that the ricks of hay and straw which the farmers, in

their barn-yards convert annually into many loads of valuable manure, if subjected to this process, form a trifling residue, destitute of fertilizing properties." Now, if he had said that if ricks of hay and straw were left untouched until they were entirely rotten down, they would make but little manure, while, if placed in barn-yards where stock frequented, and their manure and urine were incorporated with it, they would make a far greater portion of valuable manure, every one would have understood him. "It is a well ascertained fact," he asserts "that the body of a horse or cow, located properly for putrefaction, yields manure enough to produce thirty bushels of wheat," and that wood, "when properly putrified, makes good manure." The assertion of these facts, if true, are of no importance to the "practical farmer," unless he is made acquainted with the process by which the result can be realized, and it is to be hoped that we shall be informed on this point.

The Doctor considers "the residue" resulting from the "putrefactive process" as alone capable of feeding "all plants in all soils in every variety of climate," and asserts, "It is itself incapable of experiencing any other chemical change, and is consequently indestructible."—Are these assumptions true? Does the living plant in assimilating the various substances necessary in perfecting its organism, perform no chemical change? Are all these taken up and deposited precisely as they existed in the earth within reach of the plant, or is not the growth of the living organism the result of chemical changes. What is meant by its being "indestructible" is difficult to conjecture. Philosophers tell us that in the dissolution of matter nothing is lost; that the decomposition of substances form new compounds; and that the destruction of one generation furnishes material for the growth of the next. He considers that "the fertilizing properties" of the "residue of putrefaction" "does not depend upon the ammonia which it contains," and instances the "poudrette prepared by the French chemists," from which he says, "every particle of ammonia is expelled by quick lime." Does this manure contain no ammonia? and would not the materials of which it is composed, be far better fertilizers, if they could be used without being thus manufactured? Chemists tell us that nightsoil, from which poudrette is mainly prepared, contains carbonate, sulphate and chlorate of ammonia. The addition of quicklime might decompose the carbonate, appropriate the carbonic acid to itself and liberate the ammonia, but in decomposing the sulphate, sulphate of lime would be formed, and that substance, we are told, will retain the ammonia, and form a compound not volatile. What would be the value of guano as a fertilizer if it was deprived of its ammonia? Will Dr. Baldwin inform us? All practical chemists exclaim against mixing lime with it.

Another view that appears objectionable is, that a substance that under one form of application is injurious to vegetation is not a manure, though under other forms it may be a good fertilizer. "Ashes, when recently made, prove in-

jurious to all vegetation, consequently cannot be manure. When incorporated with earth, however, it does possess the power of fertilizing it." Is not this a distinction without a difference?" Are not all manures recommended to be well mixed with earth to give them full effect. May not stable manure be so applied as to "be injurious to vegetation." Guano, we know, may, and are they to be considered not to be manures, because of such improper effect. Is not this darkening caused by words without knowledge?

He goes on to explain the "modus operandi" of the "putrefactive process." "Vegetable substances, when ploughed under, are favorably located for putrefaction; that is, they are placed in a close, cool, dark and damp location. There is, however, one circumstance wanting which is known to be indispensable to the generation of the putrefactive process; that is a contact with air." Will the Doctor attempt to make us believe that when "vegetable substances are ploughed under," all that is wanted is a contact with air? Substances placed in such a situation cannot be excluded from it. We who are "practical farmers," know very well that vegetable substances so "ploughed under," always are converted into manure, provided they can be kept sufficiently wet; but if they cannot be so kept, no contact with air will answer the purpose. The past season gave ample testimony to this fact. All that is wanted is sufficient moisture to insure "the putrefactive process" going on without any necessity of alluding to the "oxides of calcium, potassium, or sodium," as being capable of "completing the chain of circumstances."

Now if Dr. Baldwin will come out and give his experience as a farmer, the quality of his soil, the means he employed in his renovation, in a plain way, so that all may see how to follow his practice, he will confer a favor on the agriculture of the country, far beyond what he can ever hope to, by publishing such essays as the one under review.

YARDLEY TAYLOR.

For the Southern Planter.

#### ANALYSIS OF SOILS.

Mr. Editor,—I observe a remark in the January number (which I have just received) to which I will invite your attention. Accompanying an article from the Michigan Farmer, on the "Analysis of Soils," you say "that stimulants exhaust in proportion to their power of producing an unnatural yield." I have noticed very many similar expressions. Dr. Stuart, of Baltimore, in an address before the Agricultural Society of Maryland, October, 1853, speaking of the effects of guano, says, "And the effect of this variety of manure is admitted by all good authority to be merely to stimulate the plant to extend its roots and gain nourishment from a larger amount of soil." Mr. Edmunds, in his address before the first meeting of the Virginia Society, encourages "the young men of Vir-

nia who have to deal with soils *exhausted by scourging cultivation.*" He tells them "that the foundation of improvement may be laid in the use of guano and other special manures." But I think he "chills the enthusiasm" he creates when he tells them "that the effect of this class of manures is, to cause a heavy production without supplying all the ingredients which the crops need, and unless ameliorating crops, occur vegetable litter be supplied, *exhaustion* of the land will follow their continued use." I have heard others say that the effects of guano on the soil were similar to those produced on the stomach of a dyspeptic by a glass of brandy and water, leaving the organ in a more enfeebled condition. There seems to be a remarkable confusion of ideas on this subject; some say the *plant* is unnaturally stimulated—others, the *soil*.

Now, what do Dr. Stuart and his authorities mean? Stimulate a plant to gain nourishment. Are not all stimulants nourishment to plants? and is there any other mode of stimulating a plant than by nourishment? If two hundred pounds of guano will stimulate or nourish one acre of corn, imparting such vigor and strength as to enable the plant to send its roots all over the neighborhood in pursuit of food, will not 200 lbs. more supply all its wants, supersede the necessity of this *fruitless* chase, (for the Doctor is speaking of a poor, barren soil,) and produce a full crop. What does Mr. Edmunds mean? If the land is already exhausted by "*scourging cultivation*" how can it be *exhausted* by *guano*? and how can a heavy production be made on exhausted land, unless all the necessary ingredients be supplied? And what, Mr. Editor, may I ask, do you mean, when you say, "that stimulants exhaust in proportion to their power of forcing an unnatural yield?" Is there not false analogy in all this? Do not such terms and such effects of stimulus presuppose *organic, nervous structure*?

On the question, whether science is doing any thing for agriculture is rather, whether chemistry is rendering any practical benefit, I may again invite your attention to Dr. Stuart's address, in answer. I will here make one or two suggestions on the subject of guano. It is complained that this manure is not a permanent improver.

*Query 1.* In the use of all expensive, or "bought" manures, does not true economy recommend that just the amount necessary for the current crop should be used and no more?

*Query 2.* If 200 lbs. guano will produce 20 or 25 bushels of wheat on land that would not produce 5 bushels without, (see Mr. Newton's statement,) is it not ungrateful and unreasonable to talk about residuum for permanent improvement? and is it not unjust not to give credit for the straw as a means of improvement?

Our wheat crops are looking backward and badly.

Very respectfully,  
Your obedient servant,

PIANKE TANK.

Gloucester, Jan. 20, 1855.

For the Southern Planter.

USEFUL HINTS FOR VIRGINIA GARDENERS.

BY E. G. EGGEING, FLORIST.

March, the first of the spring months, is of great importance to the gardener. Many processes must be performed, if the weather permit, and not a few vegetables put into the earth. The amount of labor to be performed will vary, of course, as the season is more or less forward; but in any event, he who would have his garden produce plentifully in the coming months, must be diligent during this. The following hints should be followed without fail, in the

KITCHEN GARDEN.

*Asparagus*.—This is the best time to make new beds, but we cannot now stop to describe the manner of making them. Supposing the beds to have been made in a previous year there is work for the gardener. The chief is to loosen the earth about the plants. Care must be had that in performing this, the roots are not wounded, or in any wise disturbed. The gardener should provide himself with a fork, prongs to be one inch wide, with blunt points. A common dung fork will answer. Thus provided, pass over the beds, forking them well, so as to loosen the soil to the depth of several inches, and moving the manure with the soil. A few radish and lettuce may be sown upon the bed after the forking is done and before the raking. If too many be not put in, no injury will ensue to the asparagus.

*Beets*.—To have these early requires a very rich soil. Sow the seed in drills opened from ten to fifteen inches apart and one inch in depth. After they come up the plants should be thinned out, leaving a space of five inches between each plant. Mangel wurzel and sugar beet should be put in drills eighteen inches to two feet apart and twelve inches in the rows.

*Beans*.—Those desiring to have early snap beans may sow a few in the latter part of the month, but not even then unless they can select a spot exposed to the sun and secure from the cold winds which often prevail in March.

*Celery* will flourish best in a deep, moist soil, friable, and inclining to lightness, and withal very rich. It should have been sown in February. If it was not done then, let it be done at once. The earth should be prepared very much like tobacco plant-beds are. It flourishes best in a deep moist, rich, friable soil. It is of prime importance that the spot selected be free from weeds, as the plants when young are very delicate and easily destroyed. The seeds are put in broadcast and scattered thinly.

*Cabbage Plants* which are growing in the hot-beds should be cautiously introduced to the outer air, to render them hardy and fit for transportation. This process may be performed about the last of the month. From and after the 15th of the month beds may be sown in the open ground.

*Egg Plant*.—If sown this month should be in a hotbed, with a view to forward them. When from five to six inches high the plants should be pricked up and planted in the bed, to prepare them for the final removal to the open ground.

*Lettuce* should be sown without delay where they will have a warm southern exposure, and should be transplanted at the earliest possible period.

*Onions*.—Sow white Portugal onions. These produce the finest for pickling purposes. If the buttons have not been planted, let it be done without delay.

*Parsley* should be sown this month. It makes a very pretty border if sown in single rows on the edge of the square. This is the most economical method, and while it economizes space it ornaments the garden.

*Peas*.—This delightful vegetable requires careful cultivation. To have them early, sow without delay, in ground well prepared for the reception of the seed. Continue to sow every two weeks, and thus a constant supply may be secured throughout the season, for as one set of vines cease to bear another will begin. About the last of the month the soil should be drawn up to the plant to shield and protect it and afford nutriment. When the plants have attained the height of six inches let them be supplied with sticks. The best method of sticking peas is to form a species of lattice work, by putting the sticks into the earth.

*Potatoes*.—Plant without delay.

*Peppers, Red*, may be sown on a warm border. When the plants have attained a sufficient size, they should be removed and planted out in rows about twelve inches apart.

*Radish*.—Sow at this season where there is a warm, sunny exposure, and if it be desirable to have a constant supply, let the sowing be repeated every ten days.

*Radish, Horse*.—The best method of cultivating this is as follows: dig a trench eight to nine inches deep and fill the bottom with manure; cut the roots into small pieces about four inches long and drop them eight or ten inches apart. In five or six weeks the plants will make their appearance.

*Salsify* should be sown the last of the month in drills about an inch deep and twelve inches distance between the drills.

*Tomatoes.*—At this period sow in a hotbed, to forward the plants. When the plants have attained five or six inches height, they should be pricked up and set out in the bed, to prepare them for final transplanting to the open ground. They should be placed about six inches apart, and so soon as the weather becomes settled the plants should be removed to the position they are to occupy in the garden.

These suggestions are designed particularly for gardeners about the vicinity of Richmond, but they will be found generally applicable for gardening throughout Virginia and North Carolina. They have been very hastily put together, but they are the results of many years' experience, and, so far as they go, may be implicitly relied upon. In the future numbers of the Planter we may give fuller information to guide the operations of the Virginia gardener.

#### FLOWER GARDEN.

Very little can or ought to be done among the flowers during the present month. Next month there will be more occasion for work in this department, and full directions will then be given. No homestead should be without its flower garden, and a very moderate share of attention will add largely to the attractiveness of Virginia houses. Surely such labor were well bestowed.

#### WORK IN THE ORCHARD.

All kinds of fruit trees should be pruned immediately. In doing this, remove all the inside shoots, as these absorb sap to no profit. The outer branches are the only ones that produce, and they will absorb all the juices which are drawn up from the roots of the tree. Whatever there is consumed by these useless appendages of the trees tend only to impoverish the fruit bearing branches. Judicious pruning not only improves the fruit, but causes the tree to bear earlier and prolongs its life and the period of fruitfulness. Thus a tree kept well pruned will bear double as long as one that is neglected. In pruning, the branches to be removed should be cut off close to the body of the tree, and the cut should be made smooth by a very sharp knife. This should never be neglected where the branches are more than one inch thick. Be careful to have the branches, so that one shall not cross another, and all with the extremities pointing upward. It is desirable in most cases that the scar made by the pruning knife be covered with a composition, made of equal parts of beeswax and tallow or lard. This causes it to heal more readily.

*Peach Trees* are often injured by what is termed the cancer worm. A winged insect de-

posits its eggs at the base of the tree and just below the surface of the earth. The eggs are deposited in July, become larvæ in the fall, and the next spring are worms. They not unfrequently destroy whole orchards, and nowhere are they more common than in this region. These scourges are easily destroyed by the following process: Make a small basin or trench around the tree and fill it with air slaked lime or leached ashes. This not only prevents the deposit of the eggs, but effectually destroys worms or larvæ which may already be there.

*Gooseberries.*—The method generally pursued with gooseberries in Virginia prevents anything like success in cultivating this delightful berry. The grand mistake is in the manner of propagation. Let any gardener follow the directions here submitted and he will be astonished at the result. Gooseberries should be propagated from cuttings. Select wood of the growth of the last year. Make cuttings from six to eight inches long. Carefully pinch off all the eyes, or buds, from the bottom to within two inches of the top. Insert the cutting thus prepared in the earth, burying it up to the point to which the eyes were removed. Roots will put out wherever there was an eye, and the stock will grow up clean and comely like a tree. It will not be troubled with suckers, and while much more ornamental than gooseberry bushes usually are, will produce much finer fruit. The writer can show berries nearly equaling in size a partridge-egg, and produced simply by following the plan herein suggested. If others will do likewise, they will find the produce of their gooseberry nurseries very much improved. It remains to add, that gooseberries should be placed where they will have plenty of sunshine. They do not thrive well in the shade.

*Currants.*—The remarks concerning the propagation and cultivation of gooseberries are equally applicable to currants. They should be treated in precisely the same manner and have the same freedom of access to the rays of the sun.

*Strawberries.*—The beds should be well cleaned during this month from all litter and weeds, and the earth well loosened with the hoe. After this has been done the plants should be covered over with pine tags or wheat straw; the former is the better. The object of thus covering the strawberry plant is to keep the fruit from contact with the soil. Some persons erroneously suppose that litter is spread for the purpose of protection. Nothing of the kind is needed and the only good purpose subserved is that we have noted.

For the Southern Planter.

### BUCKWHEAT.

*Mr. Editor*.—A writer in the last January Planter said some "good words" for the grain placed at the head of this article; yet he seemed to give into the generally received opinion that it is a great exhauster of the soil when sown for the grain and not for the purpose of being ploughed under, when green, as a fertilizer. I wish, with your permission to say a word or two in vindication of buckwheat, from the almost universal opinion that it is, in an unusual degree, an impoverisher of the soil.

I am much inclined to think this opinion and the prejudice against the grain arising therefrom, is, in a great measure, owing to the clean and naked condition in which it leaves land—literally destroying every other kind of vegetation, and leaving "no green thing," consequently giving to the field a most "poverty-stricken" appearance. But I think appearances in this, as in many other cases, are against the truth, and for the following reasons: The roots of buckwheat do not strike deep into the ground, but are confined chiefly to the surface, which materially narrows the extent of soil laid under contribution by the growth and maturity of the plant. Again: it grows better than any other crop on poor or exhausted soils—making a good yield on lands that will scarcely produce wheat or corn at all. Whether this is owing to the fact that it requires less nutriment for its maturity than other grains, or derives it mainly from the atmosphere, is not worth while to inquire, the main point being that the soil is called upon but for a small contribution to its growth and maturity. I think the fact that it succeeds best when sown on thin lands, conclusive that it is not a great exhauster.

I have not been an extensive grower of buckwheat, yet as far as my experience goes it confirms the opinion expressed above. Neither my experience nor observation furnishes me with any evidence that it impoverishes the soil more than any other grain crop.

T.

Augusta, Jan. 29, 1855.

For the Southern Planter.

### CULTIVATION OF INDIAN CORN.

*Mr. Editor*.—As the time has now arrived for the farmers to be making preparations for a corn crop for the present year, I think it highly important that they should interchange opinions, (through the Planter, by and with your consent,) of their different modes of preparation and after culture of this important

crop; and first of all, the kind of land as all farmers know all land cannot be successfully farmed in the same way. The land in this section is limestone with a considerable quantity of sand and in many places gravel; also a good clay subsoil. My mode of preparation is, when I have sod, to plough as early in the winter as possible, that the land may undergo a thorough freezing. About the middle of April, after hauling all the well rotted manure I can get, harrow to a fine tilth; lay off both ways four feet, drop a small quantity of ashes and plaster in each hill; then drop from three to five grains in a hill and cover from two to three inches deep. As soon as the corn is well up, drop some of the same mixture on each hill; then harrow with a two-horse harrow, the middle teeth a little raised, one horse walking in each row. Replant and thin as soon as possible, leaving two stalks in a hill; I then commence ploughing with double shovel ploughs; plough three times before harvest, if possible, and once directly after, which finishes the cultivation.

When I have stubble land to prepare for corn I haul all the rough manure on the land before I plough it; harrow and lay off in the same way, except that I first lay off with the single shovel plough, and then in the same furrows with a ripper, from twenty to twenty-two inches long, made of a bar of iron two inches wide and one inch thick; I then drop the mixture as before stated; harrow the same way, and then use the rippers in ploughing both ways twice in each row, as near the corn as possible—twice with the double shovels before harvest, and once after.

I hope this will cause you to give your experience in the culture of corn, also many others. I propose, at the same time, if the present size of the Planter is not sufficient to give the subscribers an opportunity of publishing their different modes of culture, that it be issued semi-monthly.

Yours, respectfully, M. R. K.

Frederick Co., Va., Jan. 26, 1855.

### EGGS, CONVENT FASHION.

Boil four eggs for ten minutes, put them in cold water, peel and slice thin one onion, put into a frying pan one ounce of butter; when melted, add the onion, and fry white; then add a tea-spoonful of flour, mix it well, add about half a pint of milk, till forming a nice white sauce, half a tea-spoonful of salt, and a quarter ditto of pepper; when nicely done, add the eggs, cut into six pieces each, crossways, toss them up—and when hot through, serve on toast.






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**THE SOUTHERN PLANTER.**


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RICHMOND, MARCH, 1855.

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**TERMS.**

ONE DOLLAR and TWENTY-FIVE CENTS per annum, which may be discharged by the payment of ONE DOLLAR only, if paid in office or sent free of postage within six months from the date of subscription. Six copies for FIVE DOLLARS; thirteen copies for TEN DOLLARS, to be paid invariably in advance.

✍ No subscription received for a less time than one year.

✍ Subscriptions may begin with any number.

✍ No paper will be discontinued until all arrearages are paid, except at the option of the Editor.

✍ Office corner Main and Twelfth streets.

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A limited number will be inserted at the following rates: For each square of ten lines, first insertion, ONE DOLLAR; each continuance, SEVENTY-FIVE CENTS. Advertisements out of the City must be accompanied with the money, to insure their insertion.

✍ It is indispensably necessary that subscribers ordering a change should say *from* what to what post office they wish the alteration made. It will save time to us and lose none to them.

**NOTICE.**

✍ If subscribers do not order a discontinuance of the *Planter* before the commencement of a new year, or volume, it will be considered as a renewal of their subscriptions, and they will be charged accordingly.

✍ Postage on the *Southern Planter*, (when paid in advance,) to any part of the United States one cent and a half per quarter, or six cents per annum.

**MECKLENBURG.**

Dr. WILLIAM H. JONES is our agent for the county of Mecklenburg. Our friends in that county will please call and pay him, and they would add greatly to the obligation if each one would bring two additional subscribers when he comes to pay his dues. Is that too much to ask in behalf of the *Planter*?

**SOUTHERN FARMER.**

We omitted, accidentally, to notice in our last issue that the *Southern Farmer* has passed into the hands of the Union Agricultural Society of Virginia and North Carolina, without, however, a change of editors, Messrs. Pleasants & Nicol still remaining at its head. We wish it all possible success under its new auspices.

**ENLARGING THE PLANTER.**

A kind friend, in a letter lately received, proposes that we shall double the size and the price of the *Planter*, and offers his subscription and influence in aid of the scheme. We have had the same thing proposed to us several times before by a very few of the more public spirited of our farmers, and nothing would be more agreeable to us, for several reasons, than to adopt the suggestion. But we fear it will not answer. The fashion of cheap publications and the fondness of "reading for the million," which renders it difficult for any paper, unless devoted to politics and general news to sustain itself, especially here in the South, would seem to make it a hazardous experiment; and with the lights at present before us we would rather decline to try it. Still if a sufficiency of the friends of agricultural improvement shall think differently, and will sustain the attempt and insure against loss, we are willing to receive suggestions in regard to the enlargement.

The advantages of such a publication would be very great. Take one item as an example—the effect of information as to the state of the markets of the world on a farmer's profits. We here do not study that question at all. We rarely look into it, or even at it. The great object here is to get our wheat into market as soon as we can thresh it, and many, in their haste, thresh it damp and in bad order. Yet it is a fact the February and March market, especially in Richmond, is as good, if not better, than earlier in the season; and for these reasons: that then the supply is pretty generally exhausted, and the millers, anxious to run full time up to the close of the season, are willing to pay more, whilst the channels of supply in the North and West, which have been closed up by the winter, are still unopened, and there is a demand for freights to Europe. This indifference to the market is not felt anywhere else that we know of. In the South, certainly the planter watches the fluctuations in cotton and the probable range of prices quite as keenly as the speculator or the factor, and to quite as much purpose. In England *The Mark Lane Express*, an agricultural journal and at the same time the leading paper of the corn-growing interest, is read not less eagerly by the farmer than the corn factor, and he is as well versed in all the terms of the market, and as skilful in taking advantage of them. We cannot agree with the general opinion that the best plan is to sell a crop as soon after its maturity as it can be prepared for market, or, as a very eminent and successful farmer says, that the only use a farmer has for his wheat after cutting it, is to sell it to the miller. We do not see why he, if he has the same means of forming an opinion that the buyer possesses, cannot as well

judge of the best time to sell. We have a case in point in our own experience, which we hope it will not be egotism to quote in illustration. There was no more able or sagacious merchant than the late General Bernard Peyton, who was our commission merchant. The fall before the great Irish famine he had on consignment some three hundred barrels of flour for us. At that time flour was low, and he was anxious to sell as fast as the flour came to hand. Generally and habitually we deferred to his opinion, which we knew to be better than ours; but it so happened that at that time we read regularly the money articles of the *Union* newspaper, which were written by Thos. P. Kettell, the present editor of the *New York Economist*, a valuable commercial journal. In these articles he predicted the famine so clearly, and the rise of prices so confidently, that we chose him for our guide, and resisted repeated advice from our friend to sell, as prices rose from \$4, \$4 50 to \$5, and upwards, until at last we closed doubtfully at \$6 25, and made enough on the consignment to pay many times over all the subscriptions we ever expect to pay for newspapers.

We do not mean that the farmer should undertake to speculate on his crops; that is a risk for any one; but that he should be guided by more rules than the single one of getting out his crops with all haste, and to the neglect of other things of possibly more importance at the time.

Nor do we pretend to that scope of vision which shall enable us to scan the commercial future with prophetic ken, and predict to the farmer the best time to run his crops into market. But, like any one else with equal opportunities, we can collect the views of men who study such things and lay them before him, leaving him free to form his own opinions upon the data given.

Another and an equal advantage of an enlarged paper would be, that we would have greater room for selections, and space for more lengthy and elaborate articles on questions of agricultural theory or farming practice, which are now excluded by their length from our columns, though in many cases of the greatest interest and utility. Such communications as are now offered to the State Society are generally of that character, and we mean to put them in the paper, but then that, on the other hand, involves, *pro tanto*, the exclusion of other articles of more interest to the desultory reader.

Still another advantage would be in the creation of a horticultural department and the conveying instruction on what is now one of the greatest wants of the Southern farmer. Independent of the cultivation of the national taste, which needs all the nurture it can have, and is intimately dependent on horticultural pursuits, and independent of all hygienic considerations, the profits of this depart-

ment are worth attention. It has recently been shown by our friend, Mr. Hubbard, of Buckingham, that the South, which is natural to all the best fruits of the country, surrenders to the North nearly all the revenue derivable from the supply of horticultural products.

Rural architecture, too, should form a part of every well conducted agricultural journal; yet it is necessarily excluded in its larger features from so cramped a publication as the *Southern Planter*.

But we have said enough on this head, and the reader, who has not anticipated our remarks, can follow up the above suggestions with his own reflections. We shall be glad to hear from such of our friends as take interest enough in the subject to consider it.

#### HORTICULTURAL.

We have been frequently asked by our friends, why we do not give more frequent essays and extracts on horticultural and kindred subjects.

Heretofore there have been two reasons for it. The first is, that cramped as we are for room, we find it generally difficult to get in all the original articles that are sent to us. The second reason lies in a defect of ours, (which we are ashamed to confess in the face of that public which expects every editor to be a universal genius and will not tolerate at the head of a farming paper anything but a living encyclopædia of agriculture,) but which candor nevertheless compels us to admit. It is that there cannot be found probably in Virginia any farmer of our station who knows less about such things than we do. In all the niceties of hotbeds and forcing frames, of egg-plants and lettuce, male and female strawberries, and in that still nicer discrimination of fruits and fruit trees which detects the hundreds of varieties of apples, peaches, pears, apricots, nectarines, cherries and figs, in all these things we are a dunce, and have a very well grounded doubt of our ability to instruct. This has made it a matter of delicacy to enter upon these grosser subjects, and a matter of conscience to touch roses of any hue or perfume. We might, to be sure, like Mr. Alexander Pope, who, De Quincey tells us, studied Greek, (and never became a *Grecian*,) after he had contracted to deliver the *Iliad* to subscribers, cram for the occasion and fill ourselves to repletion with horticultural lore, but, like Pope, we should be offering a translation of whose merits we could not judge, and, in many instances, run the risk of misleading our readers.

Still we admit the wants of the farming public in these matters, and have accordingly made an effort to supply them in a more satisfactory manner than we ourselves could do. We have engaged the services of a professional gardener, residing near

Richmond, who will furnish us each month with the appropriate practical horticultural reading for the season. We cannot speak of the accomplishments of Mr. Eggeling, or his fitness for the post we have induced him to assume, for we have just confessed ignorance of the things he deals in. But a very slight acquaintance has impressed us so favorably with him that we have felt no scruple in soliciting him to aid us in this minor, but most important and interesting, department of rural economy.

With this announcement of another new feature, and we hope improvement, in the Planter, and this introduction of Mr. Eggeling we leave him now and hereafter to speak for himself. We hope and believe he will do it satisfactorily.

#### SEEDS FROM THE PATENT OFFICE.

Those of our friends who have not been supplied with samples of the above seeds according to their requests by letter are informed that the supply was exhausted almost as soon as it was announced. We have written for a fresh batch, but having failed thus far to hear from our application, we fear we shall get no more. We could distribute a bushel if we had them. By the way, it was a misprint to speak of Mr. Peabody of *The Soil of the South*, as remarkable for his success with the *cranberry*. It should have read *strawberry*. Of this fruit Mr. Peabody raises and sells with directions, we believe, for management, perhaps the most prolific strawberries in the world. The only instance of successful *cranberry* culture in the South, except in the mountains beyond the Alleghanies, that we know of is that of Mr. Riddle, about six miles from Richmond, on the Chickahominy, who has lately embarked in their culture. He exhibited samples at the Fair last fall, and tells us that the average acreable value of his present very small plat was about eight hundred dollars.

P. S. Since writing the above we have received several packages and distributed nearly the whole of their contents.

#### A CERTAIN CURE FOR SCROFULA.

Our friends of the faculty will bear witness that we rarely trespass on their domain by publishing "infallible recipes." We are afraid to do it. We know too well how *little* we know to tamper with life and health and feeling by such a course. Believing, religiously, in what a dear friend of ours calls "the triumphs of medicine," and in good nursing, we generally pass by the ten thousand "cures" we see in the papers, sorry for those that cut them out, and grieving for the patients they are to be tried on. But scrofula is a privileged

question, that is to say, any one is privileged to "discuss" it *if he can*.

Like the watch of the portly gentleman in the Pickwick Papers, which every pickpocket in London had had a pull at, thousands have tried their hands, ineffectually, on scrofula, and it has resisted with equal stubbornness the assaults of the quack and the "triumphs of medicine." Whether it is left for Mr. Longworth and Captain Harkness to extract it from the system by a final "cure," we, of course, cannot say. But we would advise, if success in what "he undertakes" be the object of the "famous Millionaire," that he should confine himself to his Catawba wines, though his Champagne is none of the best. There at least, except perhaps before a jury of tcetotallers, he cannot be convicted of malpractice.

A CERTAIN CURE FOR SCROFULA.—Nicholas Longworth, the famous Millionaire and wine grower of Cincinnati, publishes the following cure for scrofula:

Put two ounces of aquafortis on a plate, on which you have two copper cents. Let it remain from eighteen to twenty four hours. Then add four ounces of clear strong vinegar. Put cents and all in a large mouthed bottle, and keep it corked. Begin by putting four drops in a teaspoonful of rain water, and apply it to the sore. Make the application three times a day, with a soft hair pencil, or made of rags. If *very painful* put in more water. As the sore heals apply it weaker.

I request editors, in all parts of the Union, and abroad, to copy this, and to republish it quarterly; it may save many lives.

N. LONGWORTH.

Cincinnati, Ohio, November 18, 1854.

P. S. Captain Harkness, of our city, the first person cured by this remedy, applied it without water and he informed me that he thought it would burn his leg off; but the next day it was cured. His was a small sore, and had been attended to for months by one of the best physicians, without any benefit.

#### PAY UP ELEVEN THOUSAND SIX HUNDRED AND NINETY-ONE DOLLARS AND FIFTY CENTS.

On the first day of February the dues to the Southern Planter amounted to \$11,691 50. Since then we have received, including new subscribers, about three hundred dollars, or *one-fortieth* part of the debt, and the payments of January and February are generally heavier than in any other months of the year. Now we ask our subscribers, in all candor and good nature, if they think this is right? We are compelled to trust them, and we do not regret *that* necessity, for we suppose we have the most solvent newspaper list in the State; but we do regret that so many worthy and substantial men should, from mere carelessness or indolence, put off the payment of a sum of money, small in nearly every individual case, and, therefore, of little mo-

ment to the debtor, but in the aggregate, as the above figures show, of a vast deal of importance to the creditor. We shall this month send out accounts in all cases where we have not regular local agents, and we beg those indebted, to remit us the money without delay. We have contracted engagements which must be complied with or we will suffer by them. Will the *bone and sinew* permit that, when bare justice on their parts will prevent it? We hope and we beg that they will not. Pay up now, like honest men and good fellows.

#### HITCHING THE TAIL TO THE PLOUGH.

The other day we received a new paper called the "Practical Farmer," just started in Vincennes, Indiana. While looking over it our eye caught an article copied from the "La Fayette Courier," headed "Plough Presentation." It contained remarks of Woodford Stringfield, of Kentucky, who was authorized by Messrs. Brinley & Co. of Kentucky, to present the Hon. H. L. Ellsworth one of their best ploughs. We were much interested both in the address of Mr. S. and the answer of Mr. Ellsworth, but not a little surprised when we came to the following remark: "I cannot omit to notice the wonderful change between ancient and modern farming. A rude crooked stick, fastened to the oxen's tails was the cruel practice that once prevailed in the north part of England, and such was the attachment to this practice, that it required an act of Parliament to remit the barbarous torture to the poor animals; and more lately I have noticed, while in New England, in the purchase of horses for a southern market, a preference was shown to those which had strong docks and long tails, that the plough could be attached directly to the long hair!"

Really! we should like to know in what part of New England Mr. Ellsworth found himself. It must be that the Yankees had all died out, and their places been supplied with the ghosts of some of the old Druids.—*Exchange.*

And we should like to know another thing. Whether Mr. Ellsworth supposes that any one will believe that horses are hitched by the tail to ploughs in any part of the South? No one knows better than Mr. Ellsworth that the statement is a libel on Southern farmers.—ED. SO. PL.

#### LIME AND ITS CHEMICAL CHANGES.

A reader of the "Rural" desires us to give an article on the chemical changes which take place in burning and slaking lime, &c. Lime is not, as was once supposed, an *element*, but consists of the metal calcium united with the gas oxygen, and is properly an oxide of calcium, just as potash, soda and magnesia are oxides of potassium, sodium and magnesium. It is never found pure in nature, except occa-

sionally in the craters of volcanoes, but is usually united with carbonic acid gas for which it has a strong attraction. In this state it is neutral, and insoluble in pure water. When limestone or any other form of carbonate of lime is exposed to a sufficiently high temperature with access of air or moisture, the carbonic acid gas is driven off, and the lime which remains is called *quick* or *caustic*, from its strong alkaline reaction. When such lime is plunged into water for a short time, or water is poured upon it, heat is evolved, the lime swells, cracks, gives off much watery vapor, and finally falls to a powder. This powder, or slaked lime, is a *hydrate* of lime, water being chemically combined with it. In this state it is still caustic, though somewhat milder than when fresh from the kiln.

The rise of temperature is so great when large heaps of good lime are suddenly slaked, as to inflame gunpowder and scorch wood; it certainly exceeds, accordingly to Pelletier, 500°, and when the operation is performed in a dark place light is also evolved. All sorts of imaginary causes have been assigned to account for these phenomena. They are referable, however, to a very simple and universal law. All substances during their change from a gaseous to a liquid, or from a liquid to a solid state, evolve heat, and *vice versa*. The intense cold produced by liquefying ice or snow by admixture with salt is a familiar instance of the latter; and the heat evolved in solidifying carbonic acid under intense cold and pressure is sometimes dangerous evidence of the former—the expansion of air consequent on the sudden liberation of heat from the carbonic acid in the moment of congelation, not unfrequently shattering the vessel to atoms.

Lime in slaking will absorb one-fourth its weight of water; but the slaked lime is not more moist than before. The water unquestionably, therefore, is chemically combined with the lime and becomes *solidified*; and it is simply owing to this solidification and chemical combination of the water that heat is evolved.

Caustic lime has a strong affinity for water and carbonic acid. When kept in a dry place it gradually slackens; cracking, splitting and crumbling to powder with the evolution of heat—which, however, is not so perceptible on account of the length of time during which the process is extended—just as though it had been slaked by pouring on water. In this case the lime has obtained the 25 per cent. of water it needs to slake it from the atmosphere. There is this difference, however, between *air slaked* lime and that which is water slaked. The former is slaked precisely as the latter by the ab-

sorption of water, but it also absorbs carbonic acid from the air, and instead of being simply a *hydrate* of lime, as when water slaked, it is a definite compound of hydrate and carbonate of lime, 42.6 per cent. of the former, and 57.4 of the latter. *Air slaked* lime, therefore, is far from being so caustic as water slaked—upwards of one-half of it being reconverted into the same chemical state it was in before burning.

After the lime has absorbed sufficient water and is completely fallen to pieces, carbonic acid is absorbed much less rapidly, especially in damp situations. In fact, though there is a constant tendency in lime to return to the state of carbonate in which it existed previous to burning, yet, by mere exposure to the air it does not attain this state in any assignable time. In some walls six hundred years old, the lime has been found to have absorbed only one-fourth of the carbonic acid necessary to convert the whole into carbonate; in others, built by the Romans eighteen hundred years ago, the proportion absorbed has not exceeded *three-fourths* of the quantity contained in natural limestone.

When slaked in the ordinary way, by the application of water, lime falls to pieces with the absorption of but little, if any, carbonic acid. But when slaked and exposed to the air the absorption of carbonic acid is at first very rapid, but it gradually becomes more slow, and probably the same definite compound of hydrate and carbonate of lime is formed as in the case of air slaked lime.

The original limestone, or any other form of carbonate of lime, then, is perfectly mild. By driving off the carbonic acid by heat, we get lime which is very caustic. By slaking this with water, we get a less caustic substance—hydrate of lime. By allowing it to air slake, we get a still less caustic compound, a definite compound of hydrate and carbonate of lime. And by exposing it to the air for a sufficient length of time, we ultimately get the whole reconverted again into its original mild form of carbonate of lime.—*Rural New Yorker*.

#### LIMEWATER IN BAKING BREAD.

In bread-making, the vineous fermentation sometimes passes into the acid, thus rendering the bread sour and disagreeable. Liebig has lately performed a series of experiments to improve the preparation of bread, from which he comes to the conclusion, that the only effective and innocuous means of improving the qualities of wheat and rye bread, is limewater. In making dough he advises one pint of clear limewater to be used for every five pounds of flour.

The limewater is first added to the flour, after which a sufficient quantity of common water is added to work the whole into good common dough—the leaven being mixed with water can be prepared by stirring some quicklime in a vessel containing pure cold water, then allowing the sediment to settle. The clear is then to be poured off, and kept in bottles for use. No care is required respecting the quantity of lime to be stirred in the water, as it will only take up a certain quantity of lime, and no more. Those who use saleratus (bicarbonate of soda) in the raising of bread, are recommended to cease its use, and employ pure baker's yeast and a little limewater. Our bones are composed of the phosphate of lime, and those who use fine flour require for their health a little more lime than is contained in their food. Cream of tartar and carbonate of soda are inferior to common yeast for making healthy bread.—*Scientific American*.

#### CHEAP SOAP.

A correspondent of the "Southern Banner" gives the following recipe for soap-making, and adds, that it would be worth one thousand dollars in the hands of a selfish person, and the world would have to untie the purse string to get it, but here it is free gratis:

Take six pounds of potash	-	75
Four pounds of lard	-	50
One-fourth pound of rosin	-	25

All amounting to - - - \$1 50

Beat up the rosin, mix all together well, and set aside for five days, then put the whole into a ten gallon cask of warm water and stir twice a day for ten days, at the expiration of which time, or sooner, you will have one hundred pounds of excellent soap for \$1 50.

#### AMERICAN HORSES FOR BRITISH CAVALRY.

During the Canadian rebellion, the English sent over to those provinces a considerable body of cavalry. Many of these horses died on the voyage, and they were compelled to mount their men by purchases in New York, Vermont and New Hampshire, along the borders of Canada. These animals I saw in Montreal, in exercise. They were specimens of the middling sized Morgan, with striking marks of blood; and Col. Shirley, of the 7th Hussars, informed me in 1842 that they were the best cavalry horses for all work that he had ever seen; so good, he said, that they were not to be sold when the regiment went home, but to be taken to England for use.—*Address of J. Prescott Hall*.

For the Southern Planter.

### SOWING CLOVER SEED.

*Mr. Editor*,—I have seen several communications in your paper recommending clover seed to be sown *late* in the spring. I concur in that suggestion, which is sustained by several years' experience in my farming operations. I sow my clover seed late in April, after all danger of hard frosts is over, and roll or harrow it in, having first sprinkled it with water and rolled it in plaster. Last spring I sowed several bushels about the first of May on some very late wheat, and harrowed it in with a two-horse harrow. The wheat was not injured, and a fine stand of clover was secured on very poor land, baked nearly as hard as a brickbat. The harrow did not tear up sufficient ground to cover half the seed. The whole field was plastered immediately after harvest, at the rate of half a bushel to the acre. On oat-land I sow the clover seed sometimes after the first harrowing and harrow it in, and sometimes after the oats are two or three inches high, and roll it in—always dressing the field with plaster as soon as the clover is up. The plaster is nearly as beneficial to the oats as the clover.

The object is to avoid the late spring frosts, which frequently kill the young clover, to put the seed in the ground where it can grow, and to nourish it while young with its specific food, plaster.

As an experiment I sowed a few acres of wheat early in September last with clover seed. It came up well and has thus far stood the winter finely. A large farmer in the neighborhood has practised *early* fall sowing of clover for several years with general success. I, however, decidedly prefer late spring sowing, as more certain. If the fall is dry or the winter early and severe, you are apt to lose your young clover.

C. C. B.

*Fockbridge, Jan. 30, 1855.*

For the Southern Planter.

### ICE HOUSES.

There are many conflicting opinions, even among people of experience, about the proper construction of ice houses. I venture to submit my views, with all due deference to those of others.

Chemistry and common sense would teach, that the ice house, above the ice, ought not to be too hot for a man to stay in, and that the external atmosphere ought to be excluded from the ice. True, ice exposed to the open air will keep better, perhaps, than will ice in a box in

the open air, without being enveloped in a non-conductor of heat. I have tested the matter. A lump of ice suspended in a basket that will let off the water without being wrapped in any thing, will melt less than it will in such a box. Evaporation is a cooling process, and there may be something in the evaporation from the basket so suspended.

Everybody knows that ice standing in water will melt; hence the custom of digging a pit-hole at the bottom of the house to receive the dribbling water from the ice. But too little care is taken to prevent the infiltration of water from the surrounding earth. There ought to be a high roof just above the eaves and extending under the gable ends of the house.

There ought to be as free a ventilation as possible above the plank floor of the house. This may be easily accomplished by slats after the fashion of window-blinds, opposite each other, in the gable ends.

My ice house was constructed many years ago. It never did keep ice well until the year 1854. One of my predecessors had, in addition to a sink hole at the bottom to receive the water, cut a blind ditch leading through a steep bluff, as additional security against water. In 1846 I filled the house heaping full. It only held out until July. Thinking that possibly the blind ditch might have got choked I dug down to it, and opened and poured water into the house until I saw it running through the ditch at the outlet. I again filled, and still it did not last through the summer. I next got a notion that the warm atmospheric air, regurgitating from the blind ditch, might be at fault. I filled the sink hole with solid clay nearly to the top and just above where the blind ditch opened into it; then threw in stones, pebbles and sand a foot and a half deep, with corn-stalks, and my ice kept nearly to October. If I had had my high roof and slats above the floor constructed early in the spring, I believe that I could have had it at Christmas, for before I constructed them the infiltration from the dripping eaves had melted the ice on two sides down to the bottom. I took the additional precaution of putting sheds sloping just beneath the slats in the gable ends down to the height of a man's head, and found that they not only answered the purpose of breaking the force of the morning and afternoon's sun, but furnished convenient shelters for carts, ploughs, &c. Two hands constructed them in two or three hours, the materials being ready.

Fixed air, or more correctly speaking, carbonic acid gas, sometimes settles in ice houses, as well as wells, rendering them incapable of supporting respiration. This evil may be very

easily remedied by running a bush, wetted with strong lime water, up and down a few times. Indeed being heavier than atmospheric air, fixed air may be dipped out in a close vessel, except at the top, gently let down and drawn back and carefully tilted over outside.

One of my servants came near dying from this cause. I went to the ice house and found that a candle became extinguished about six feet below the surface. The limewater and bush were run up and down a few times rapidly, then the candle immediately burnt brilliantly to the bottom.

An Irish well-digger lost his life in my neighborhood from a disregard of my advice. Without knowing the man I passed him one afternoon, and heard a brisk talk between him and another Irishman about the air in the well which he was digging not being pure enough to support the blaze of a candle. I halted and cautioned the poor fellow against going in there until he could get a burning candle or lamp to the bottom, assuring him of the complete efficacy of the bush and limewater. I know, said he, "that will do for a mine but it won't do for a well." I assured him the cause was the same and the remedy the same in both cases—again cautioning him to follow my advice at the peril of his life. His reply was, "By Jazus, I'll bet you a dollar against ten cents that I am right." He went in recklessly the next morning, in spite of the remonstrance of his employer, and lost his life by it in an instant. I passed the place two or three hours afterwards and found a crowd around the well, trying to get out the dead body. One had advised burning chips, and another a chafing-dish of burning charcoal—all making the matter worse and worse. I went up and with some difficulty prevailed upon the other Irishmen present to try the bush and lime. A few passes of the bush enabled the candle to burn to the bottom, and the dead body was drawn up. So much for bigotry—so much for chemistry. Some knowledge of it seems necessary, from the cook-shop to the palace. Even a good cook is a pretty good chemist, without knowing it.

T. H. A.

February 4, 1855.

For the Southern Planter.

#### FRUIT TREES AND FRUIT CULTURE.

FRANK: G. RUFFIN, ESQ.

Dear Sir,—The icy hand of winter has been on us for the past twenty-three days; the earth has been bound up with frost, and the ground

covered with snow. The cattle have picked their food clean, and up to this time have wintered well. The most of our fat beeves have gone to market, at prices ranging from \$7 to \$9 50 at home. Up to the 22d of January my sheep were not fed a handful, and looked remarkably well, being regularly salted once a week with other stock. The winter has been uniformly dry and our roads good. Yesterday and last night we had a good rain; the snow is disappearing, and a smoky atmosphere indicates a thaw. The birds are singing this morning, and we may now look for a more genial season. The spring is approaching, and I have concluded to send you a further list of select fruits, from which the amateur farmer and all lovers of good fruit may select, with the assurance that in due time they will reap an abundant harvest, if they labor and faint not. But let me admonish them that simply sticking a tree in the ground will avail them little, without good after-culture. They may, with the same chance of success, plant a field of corn and leave it to the grass and weeds.

To begin right, select your orchard lot, and enclose it well with a good fence. I like the Jefferson fence best, or a better fence from wood is made by a heavy hewed or sawed post, 4 inches thick and 9 inches broad, bored with a 2½ inch auger, for 5 large broad rails, with the hearts up, well fitted; the posts set in the ground 2 feet deep, and the upper rails pinned with an inch auger through the post. Such a fence, well put together, of locust or cedar posts and chestnut rails, will need little repair for twenty years. Cherry Grove, the farm now owned by Mr. McClung Patton, formerly the residence of the late Col. James McDowell, one mile above Fairfield in our county, has such a fence, not of as heavy material as I have described, or as well put up, which I have known for thirty-five years; how long it was put up before I saw it first, I cannot say, but perhaps ten or fifteen years; it is now going to decay, but with repairs might yet last ten years. The material is chestnut and locust. Col. McDowell was an eminently practical man, of great good common sense, and one of the best magistrates known in the county of Rockbridge.

I make the Jefferson fence by cutting my stakes 6½ feet long, sharpening the lower end, and make a pin 2 or 2½ inches on top, to fit a cap, usually made of chestnut, 1½ inches thick, and bored by a 2 or 2½ inch auger. These are my wet day jobs. The stakes are better to be seasoned. Let every thing be prepared in winter, or of wet days, and ready for use. When needed, take a heavy crowbar 4 or 5 feet long, a little sharpened, and one good hand,

with a correct eye, can set and cap the posts or stakes as fast as two men can build the fence. I put a rock 4 or 5 inches thick between the posts, which saves a rail, and keeps the fence off the ground for a few years. Seven or eight rails, with the rock, will make a good fence, which should have a worm of  $2\frac{1}{2}$  or 3 feet. The top rail should be put on the cap. The pin of the stake above the cap should be 8 to 10 inches. The stakes should be put in the ground 18 inches. Rails should be made of good size, particularly, if made of chestnut, as they are not so liable to spring or warp.

Your orchard being properly enclosed, lay off the rows at right angles for peach trees, one row apart, is a good distance; for apple trees 30, 35 or 40 feet from each other, owing to the quality of the land. On thin lands 30 feet does very well, but on good lands, with the orchard well cultivated and manured, 40 feet is better. Some of my trees, planted 20 years ago, at 33 feet, are now lapping together where the ground is good. Corn grew here last summer 10 and 12 feet high. On the hillside there is yet ample room.

My land is generally poor, with occasional good spots. It starved out the original proprietors, who moved to Missouri, and are all dead. By a better rotation of crops, two of grain and three of grass, and again three of grain and two of grass, with a regular application of barn-yard manures, plaster and lime, not forgetting the hen-house, my land, after twenty years' close application, is paying in fair crops, with a fine supply of choice fruits. I have labored much of this time with my own hands, and have given personal superintendence to every part of my business. We are somewhat systematic in our habits, eating and sleeping regularly, working constantly, but moderately, and never after night, if to be avoided. My family making free use of fruits and vegetables the year round, we have enjoyed almost uninterrupted good health. Leaving out midwifery fees, in twenty years I have not paid twenty dollars for medical service, in a family ranging from fifteen to twenty persons.

But I have digressed from the subject in hand, and will say to the fruit grower, make your holes in which you set your trees large, 4 feet square and 18 inches deep, throwing away the subsoil. Fill the holes half full of virgin soil or compost manure; set your tree in well, about as deep as it formerly stood in the nursery; bind it with a wisp of straw to a stake, to keep it straight. Keep your trees clear of grass, and occasionally work around them, cropping and manuring them carefully, and in a few years you may expect to enjoy

the fruits of your labor. By the way, the first fruits are not always a fair sample of what you may expect in after years, being often knotty and ill formed when the trees first come into bearing.

I will now present to your readers some select varieties of fruit, as raised by myself, or highly recommended by others, ripening in succession:

*Selection of Choice Pears, to ripen from July to April.*—Madeline, Bloodgood, Dearbon's Seedling, Bartlette, White Doyenne, Seckle, Surpasse Virgalieu, Dunmore, Beurrè Bose, Dix, Columbian, Winter Nelis, St. Germain.

*Of Peach.*—Early Tillotson, White Imperial, Early Newington, Royal George, Grosse Miznonne, George IV., Crawford's Early, Bergen's Yellow, Brevort, Malta, Heath, Large White Clingstone, Druid Hill, Lemon Clingstone, Washington, Crawford's Early Malacotan, Crawford's Late Malacotan, Columbia, Prince's Red Rareripec, La Grange, Morris' White Rareripec.

*Of Nectarines.*—Early Violet, Hardwick's Seedling, Elrudge, Boston, Hunt's Tawny, Roman, New White, Newington, Pitmaston's Orange, Violette Hative.

*Of Plums.*—Royal Hative, Hudson Gage, Green Gage, Jefferson, Huling's Superb, Purple Gage, Coe's Golden Drop, Lawrence's Favorite, Washington, Coe's Late Red.

*Of Cherries.*—Early Purple Guigne, Baumann's Early, Knight's Early Black, May Duke, Bigarreau, Tartarian, Downer's Late, Belle de Choisy, Kentish, Morello, Montmorency.

*Of Currants.*—Red and White Dutch, Mayo Victoria, Knight's Large Red, Knight's Sweet Red.

*Of Gooseberries.*—Red Washington, Crown Bob, Keen's Seedling, Yellow, Woodward's Whitesmith, White Honey, Yellow Ball, Taylor's Bright Venus, Pitmaston's Green Gage, Green Walnut, Parkinson's Laurel.

*Of Strawberries.*—Large Early Scarlet, Hovey's Seedling, Ross's Phoenix, Hudson's Bay, British Queen, Red and White Alpine, Prolife Hautbois, Elton, Old Pine.

*Of Grapes, (Natives.)*—Catawba, Bland, Ohio, Lenoir and Isabella.

*Of Raspberry.*—Red and Yellow Antwerp, Cretan Red, Franconia, Ohio Everbearing, Victoria.

*Of Apricots.*—The Large Early, Breda, Peach and Moorpark, are the best.

I will close this communication by adding a list of apples as recommended by Downing for summer, autumn and winter, and would remark that trees to pay well must, like corn, be kept



clean of grass, and the ground be stirred around them occasionally.

*For Summer.*—Early Harvest, Red Astracan, Early Strawberry, 'Drap d'Or, Early Red Margaret, William's Favorite.

*For Autumn.*—Porter, Fall Pippin, Ross Nonpareil, Maiden's Blush, Jersey Sweet, Fall Harvey, Golden Sweet, Summer Sweet Paradise, Gravenstein, Rambo.

*For Winter.*—Newtown Pippin, Baldwin, Dutch Miznone, Swarr, Esopus Spitzenburg, (printed in your February number *Cooper*), Ladies' Sweeting, Northern Spy, Boston Russet, Lady Apple, Rhode Island Greening, Yellow Belle Fleur, Peck's Pleasant, Herefordshire Permain, Male Carle, Wine Apple, Roman Stem, Golden Ball, Green Newtown Pippin.

Much of the fruit herein named is such as I have in cultivation. Other varieties I have selected from Downing's Fruit and Fruit Trees of America.

I have a few vines of the Isabella grape which have always done well, rarely casting their grapes or being mildewed. I usually prune in winter, mostly in February, leaving three or four eyes. I have sometimes had my vines grow twelve or fifteen feet in a season, but I cut all away in February except fifteen or twenty inches, which throws out the fruit bearing vines after the spring frosts; and with a little attention you rarely fail in having a crop of grapes. The ground should be kept clear of grass and occasionally spaded.

When the season comes round for making apple butter—an article much used in our Valley, Pennsylvania and further North—if alive and well, I will give you an article on that subject. If well made it will keep for years. I consider it a most capital preparation, of cider, fruit and spices. Fifty gallons of cider with six bushels pared and well cored apples, will make about twenty gallons, if well boiled.

Your obedient servant,

HENRY B. JONES.

Brownsville, Va., Feb. 7, 1855.

For the Southern Planter.

#### AGRICULTURAL SCIENCE.

The science of agriculture is a practical science; it is based upon experiment and observation, and nothing whatever that contradicts the experience of the practical farmer deserves one moment's serious consideration.

The infinite goodness and wisdom of the Creator are strikingly illustrated in this fact, that although he has condemned man to earn

his bread by the sweat of his brow, yet he has adapted "the art of deriving from the earth its most valuable organic products" to the comprehension of the plainest understanding. Nothing more appears to be requisite than good sense, industry and attention. Accordingly our observation teaches us, that in all civilized countries this class of men compose the yeomanry of the land—honest, frugal and industrious, they form the bone and sinew of every community—inured to labor, active and enterprising, they are always the pioneers in the settlement of new countries, the most valuable citizens and the most successful farmers in the old. Would this class become better practical farmers if they could receive a collegiate education? I think not. Unused to labor during the time requisite to complete their educations, and conscious of the mental superiority which education necessarily inspires, they would never consent to return to the drudgery of *field* labor. They would feel themselves better qualified to make a livelihood by the efforts of their brains, than by the labor of their hands, and they would never become practical farmers.

But we have another class of farmers, a peculiar race to be found, I believe, nowhere upon earth except south of Mason & Dixon's line. These men having completed their education at the best seminaries of learning, with cultivated minds and liberal views return to take possession of their farms provided with abundant slave labor. They know nothing of practical agriculture, it is true, but by careful observation and attention, and by the perusal of the works of the best authors, in a few years they acquire sufficient knowledge of the subject to become successful, practical farmers. This is the gentleman farmer—a man qualified by education to adorn the councils of a great nation, and compelled by circumstances to attend to the details of farm operations. These constitute the only nobility of a free people. God forbid that this race should ever cease to exist.

If the advantages conferred upon the practical farmer by a collegiate education were as great as they have been represented, this fact would have been more strikingly manifest in Virginia than in any other State. Gentlemen thoroughly acquainted with all the sciences usually taught in the best seminaries of learning, have settled in every county and in almost every neighborhood. These long since would have demonstrated to their uneducated neighbors, the great benefits conferred upon the practical farmer by a collegiate education in the improved culture of their farms and in the increased products of their crops, they would have exhibited the great advantages to be de-

rived from the application of science to practical agriculture.

But so far as my observation extends this is certainly not true. A methodical training in early life of the uneducated farmer in habits of industry and attention, appear to me to have given him the most decided advantages over his scientific neighbor.

The science of agriculture has no "kindred science." It claims no affinity, no relationship with any other science whatever. In vain have I sought for one single fact which proves conclusively the benefits conferred upon agriculture by any other science.

The science of chemistry "enables us to discover the peculiar properties of all natural bodies either in their simple or compound state." This is an important science, and one which has undoubtedly conferred inestimable benefits on mankind. But how can this science promote the interest of agriculture? Of what benefit would it be to the practical farmer to understand that sugar and wood are composed of the same elementary substances differently combined, when his business it is to rear plants to perfection at the least labor and expense?

If the farmer wishes to know what poisonous substance is contained in tobacco, the analysis of the chemist would demonstrate it to his entire satisfaction. He would separate the nicotine from it and prove this to be the poisonous principle; but this science certainly would not enable the farmer to grow better crops of tobacco, or even teach him how to cause the plant to produce a greater quantity of this narcotic poison.

The science of chemistry has no relation to the science of agriculture, and consequently I believe there is *no* such science as that of *agricultural* chemistry, for reasons which I shall now assign.

1. It contradicts the experience of the practical farmer in the assertion that different plants require different kinds of nutriment, for every practical farmer knows that however poor land may be, if well manured it will perfect any crop that ever grew in Virginia.

2. The analysis of all similar vegetable and animal substances are alike, whether they be obtained from the north pole or under the equator, nor do the results of analysis differ with the quality of the food consumed by them during life.

3. The processes of digestion and nutrition are chemical processes. This is strikingly exemplified by budding the lemon upon the orange tree. It would be as vain for the chemist to attempt by analysis to demonstrate the existence of the citric acid of the lemon in the sap of the

orange tree, as to show the presence of wine or vinegar in the juice of the grape previous to the vinous or acetous fermentation.

4. If the mineral salts found by analysis in the ash of plants are the same which were derived from the earth during their growth, this would prove that they did not serve as nutriment to the plants, not being chemically changed.

5. Combustion being a chemical process, the analysis of the ash of plants cannot possibly demonstrate the same salts which existed in them previous to combustion.

6. These mineral salts cannot be proved to be the food of plants when separate from the ashes which contained them.

7. *All soils, no matter how poor, or by what process exhausted, may be made exceedingly fertile without the addition of any substance whatever.*

With a soil naturally exceedingly fertile and a climate most propitious, with labor cheap and efficient, and a farming population, intelligent, energetic and industrious, why is it that the lands in Virginia are so deplorably impoverished? I answer, because the Virginia farmer attempts that which he is unable to perform—he attempts to preserve the fertility of his cultivated land by manure *made on the land*, which no labor, no energy, no industry, can possibly enable him to accomplish; it is inevitably doomed to ultimate exhaustion.

This is the true cause of the impoverished condition of the land, not only in Virginia, but in every other country in which it has been cultivated in large tracts. I believe that no example can be found in the world of the preservation of the fertility of land under cultivation, except in those countries where they have been cultivated in *very small tracts*.

If the farmers of Virginia will discard all erroneous opinions with regard to the collection and application of manure, and rely solely upon the restoration to the soil of that natural provision for vegetable life, mould, that is, manure made of the earth itself, caused by shade, I confidently predict that in a few years Virginia will become one of the most fertile, as well as one of the most beautiful countries under heaven.

R. T. BALDWIN.

Winchester, December, 1854.

From the Southern Farmer.

#### EXPERIMENT IN SEEDING OF OATS.

*Messrs. Editors,*—As the time for seeding of oats is near at hand, I take the liberty of sending you the following experiments with their results, which were given me by the Prince

George Hole and Corner Club, No. 1, at its February meeting, 1854, of which I was then a member. If you think them worthy of notice, you may make them public. Being a farmer of limited means, I was unwilling to risk a larger outlay for manures than is shown below; nevertheless, small as it is, it may be of some benefit to the farming community.

Very respectfully, yours,

JOHN BATTE.

Prince George, Jan. 11, 1855.

EXPERIMENT

To Test the Relative Value of Superphosphate of Lime and Peruvian Guano applied to Oats; also, the Relative Value of Different Quantities of Manure as well as Thick and Thin Seeding of Oats, made by John Batte, by order of the Hole and Corner Club, No. 1, of Prince George County.

No. 1.—Quarter acre, 8½ lbs. seed 13¼ cents, 50 lbs. superphos. at \$45 per 2000 lbs. \$1 12½ cents.....	\$1 26¼
Yield 176 lbs. oats at \$1 25 per 100 lbs. ....	\$2 20
Deduct cost of seed and superphos. 1 26¼	
Profit of No. 1.....	93¼
No. 2.—Quarter acre, 8½ lbs. seed 13¼ cents, 50 lbs. Peruvian guano, at \$55 per 2000 lbs. \$1 37½.....	1 51¼
Yield 389 lbs. of oats, at \$1 25....	5 34
Deduct cost of seed and guano....	1 51¼
Profit of No. 2.....	3 82¼
No. 3.—Quarter acre, 8½ lbs. seed, at 13¼ cents, 25 lbs. guano, at \$55 per 2000 lbs. 63¼ cents.....	82½
Yield 256 lbs. oats, at \$1 25.....	3 20
Deduct cost of seed and guano....	82½
Profit of No. 3.....	2 37½
No. 4.—Quarter acre, 5¼ lbs. seed, at 9¼ cents, 25 lbs. guano, at \$55 per 2000 lbs, 68¾.....	78
Yield 275 lbs. oats, at \$1 25.....	3 44
Deduct cost of seed and guano....	78
Profit of No. 4.....	2 66

I would here state that these experiments were made on a spring fallow, after oats.

J. B.

MAKING HOT-BEDS.

That all may know how to get up a cheap hot-bed, we will point out an inexpensive plan to such as may object to glass frames on the score of expense. To such we will remark, that the glass may be very advantageously substituted by cotton cloth, which will be found on trial to be a very effective conductor of light and heat.

For most families a hot-bed 12 feet long the width of the border will answer. The border should have a warm southern exposure. Such a frame can be made by any person who can nail planks together. The back of the frame

should be twice as high as the front, say the back 9 feet high, the front 4 feet 6 inches high. A few inches space should be left behind the back for the insertion of horse-dung to raise the heat—a top or frame must be made to stretch the cotton cover over, to be attached by hinges for the convenience of being raised up to give air to the plants. The cotton is to be oiled when tacked on—yellow pine is the best plank to use for the purpose.

The hot-bed can either be made on the surface, or by sinking the frame a few inches. The manure should be horse-dung, and it should be turned over, shaken and well mixed with a dung fork as being put in on the bed; every now and then beat it down with the back of the fork, continue this process until the dung is about 4 feet in depth in the frame, when it must be left to settle down 6 or 7 inches, which it will do in 8 or 10 days. When the dung is put in, lower down the frame to raise the heat. When the heat is sufficiently raised, then put on 4 or 5 inches of dry mould or earth, rake it smooth and even, and then your hot-bed will be fit to receive any seed that you desire to sow upon it. When the bed is first made, fill up the space behind it with horse dung.

*Time of Sowing the Seeds.*—Nearly all kinds of plants are ready to set out in from 6 to 8 weeks from the time of sowing, and by keeping this fact in mind you can very easily regulate the time of sowing your seed, making the time when in your locality the plants may be safely set out, the governing point as to the time of sowing the seeds. As an average of time, it would, perhaps, be best to allow but six weeks for the growth of the plants.

*Management of the Hot-Bed.*—On every good day in mild weather, the sash should be raised a few inches in mid-day, to admit air and graduate heat. Of nights and in cold, bad weather in the day time, the hot-bed should be covered with matting or straw.—*Am. Far.*

BIBLE BONES.

An old man once said, "For a long period I puzzled myself about the difficulties of the Scripture, until at last I came to the resolution that reading the Bible was like eating fish. When I find a difficulty, I lay it aside and call it a bone. Why should I choke on the bone, when there is so much nutritious meat for me? Some day, perhaps I may find that even the bone may afford me nourishment."

Would that there were less of picking of bones, and more of feasting on the substantial food with which Infinite Love has spread the spiritual board!—*Parish Visitor.*

BOOK FARMING.

Speaking upon this subject, the Hon. Kenneth Rayner, in his address before the North Carolina State Agricultural Society, says: "At the time this prejudice was first excited, I am inclined to think there was some reason for it." It attempted (we do not quote his exact words) to bring foreign practices into countries with a different soil and climate, as well as different wants. But science, united with practice, soon exposed the fallacy of such book farming as this. Because turnips and beans and hops are among the most profitable crops in England, is no reason why they should be so here. Because blue grass is so valuable a crop in the limestone regions of Kentucky, is no reason why we should exhaust our energies in trying to establish its general culture in North Carolina. Such errors as these, such book farming as this, it is the purpose of scientific agriculture to point out.—*Rural New Yorker*.

CREOLE BUTTER.

The neighbors of a certain lady in the Fourth District of New Orleans, have recently discovered the nature of something that has seemed a miracle, for months past. They knew the lady had but one cow, says the *Crescent*, and they knew also that the lady's two little negroes peddled as much Creole butter daily as could be produced by half a dozen common cows. Inquisition got so high on the subject at last, that the lady has let out the secret, and in its travels it has reached us. She told a friend that her cow was only a common cow, and did not produce any butter, but yielded milk enough in which to re-churn any quantity of strong Goshen butter, which she buys by wholesale at the groceries, and converts by the said re-churning in new milk, to that pale, sweet delicacy known as Creole butter, which always commands the highest of prices. She added, also, that by this process she had made a clear profit, since June last, of *twelve hundred dollars!* One cow is not much, but one cow and Yankee ingenuity together are considerable. Our authority in this matter is indisputable, and the speculation is worth imitating.—*Petersburg Express*.

For the Southern Planter.

CUT-WORM.

*Mr. Planter*,—A friend of mine once informed me that he believed if you would tar your seed corn and then roll it in fine salt you would find a remedy against the ravages of the *cut-worm*. I tried this recipe last year (1854) on a very low and wet bottom, aiming to drop five grains to the hill. Every grain, I verily believe, grew off and so continued until thinned. Be this at it

may, not a hill needed replanting or setting. This experiment, however, I do not consider a fair test. All the seed here used was "doctored" as above, and *non constat* that the result would not have been the same, if no ointment had been used; but this it does, it settles that the prescription does no injury. This is more than can be said of every body's prescription.

Of another field, neither so foul nor wet, which was planted without preparing the corn, I had to replant portions more than once, and then did not secure a good stand.

The object of this note is to ask the attention of corn planters to the proposed remedy, in the hope that some will try it and report the result. The friend above referred to is not only one of the best farmers in the county, but you will not find a more reliable man inside of God's creation. What he says you may regard as a fixed fact. I hope "Dick" may be induced to give the experience of his warfare against the cut-worm.

S. BASSETT FRENCH.

Whitly, Feb. 7, 1855.

HOUSEHOLD MEASURES.

As all families are not provided with scales and weights referring to ingredients in common use by every housewife, the following may be useful:

Wheat flour, one pound is one quart.

Indian meal, one pound two ounces is one quart.

Butter, when soft, one pound one ounce is one quart.

Loaf sugar, one pound is one quart.

White sugar, powdered, one pound one ounce is one quart.

Best brown sugar, one pound two ounces is one quart.

Eggs, average size, ten eggs are one pound.

Sixteen large table-spoonfuls are half a pint, eight are one gill, four half a gill, &c.

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		Daniel Jones " 1856	1 00

**PAYMENTS TO THE SOUTHERN PLANTER,**

*To the 28th of February, 1855.*

All persons who have made payments early enough to be entered, and whose names do not appear in the following receipt list, are requested to give immediate notice of the omission, in order that the correction may be made in the next issue:

J. R. Thompson to January 1856	1 00	J. W. L. Fauntleroy " "	1 00
Capt. Samuel Haraway to September 1855	2 00	J. G. Ambler to September 1855	1 00
Ro. Seott to January 1856	1 00	Col. Chas. Blue to January 1856	1 00
John Jacob to January 1856	1 00	Robert Carmichael " "	1 00
F. Rosson to January 1856	1 00	Capt. David Pugh " "	1 00
J. E. Bowles to January 1856	2 00	Col. Thos. Carscadon " "	1 00
James B. Jones to January 1856	3 00	W. S. Major " "	1 00
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T. R. Mottley to July 1855	1 00	William Houchins " "	1 00
E. Brown to January 1856	1 00	Henry Hughes " 1855	2 50
P. Preston to July 1856	2 00	Warner T. Cooke " 1856	1 00
Dr. J. O. Leary to January 1856	1 00	Robert Beverly to July 1855	1 00
V. G. Rogers to January 1856	1 00	Dr. R. N. Hewitt to January 1856	1 00
R. P. Fickle to September 1855	1 00	Thomas C. Chandler " "	2 00
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L. Foote " "	2 00	George E. Geddy " "	} CLUB 5 00
J. W. Burwell " 1855	1 00	W. L. Taylor " "	
David Neff to March 1856	1 00	L. J. Waller " "	
Robert Pollard to January " "	1 00	M. M. Martin " "	
Genj. Sumner " "	1 00	Felix Pierce " "	
Col. R. W. Carter " "	2 00	B. F. Piggott " "	} 1 00
M. Clark " "	1 00	A. D. Martin " "	
Robert L. Brown " "	1 00	Wm. Grimes " "	1 00
William Gordon " "	1 00	W. T. Sledge " "	1 00
G. Turpin " "	1 00	Dr. S. Patrick to January 1856	2 00
Genj. Vaughan to April " "	1 00	Gen. J. B. Harvie to July " "	1 00
Capt. J. Lucius Davis to January 1856	1 00	Dr. R. E. Lewis " "	} to January 1856 5 00
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Col. J. B. Lindsay " "	1 00	Wm. C. Powell " "	
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James Williams " "	1 00	E. O. Fitzgerald " "	
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L. W. Notling " "	1 00	Wm. Felton " "	
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James V. Kirkpatrick to October 1855	1 00	C. W. Word " "	
John Sinton to January 1856	1 00	M. P. Hatherway " "	
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P. Sraith " 1855	1 00	W. White " "	
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		C. A. Halloway " "	
		James Hays, Sr. to September 1855	
		Dr. Tignall Jones to January 1856	2 00

Dr. N. S. Waller to January 1856	1 00	Moses T. Hughes to April 1855
L. Partlow " "	3 00	P. B. Jones to July 1855
O. M. Crutchfield " "	1 00	Thos. R. Dew to January 1856
F. K. Nelson " "	1 00	Rev. Sabel Taylor to January 1856
H. B. Styren to December 1855	1 00	Mrs. C. L. Armistead to January 1856
Dr. R. H. Macon to September 1855	2 00	A. J. Grayson to January 1856
M. R. Kaufman to January 1856	1 00	Col. W. H. Sandford to January 1856
S. A. Buekner to July 1856	1 00	Archer W. Womack to January 1856
Dr. O. F. Baxter to January 1856	4 00	Asa D. Dickinson to September 1856
Geo. C. Hannah " "	2 00	J. M. McNutt to November 1856
John H. Steger " "	1 00	B. S. Scott to November 1855
Robt. A. Wilson " "	1 00	Richard V. Watkins to January 1856
Samuel P. Wilson September 1855	1 00	Fred. Jackson to January 1856
J. A. Dalby to January 1856	1 00	Wm. G. Maddox to January 1856
H. G. Richardson to July 1856	4 75	Richard B. Lyne to January 1855
E. N. Price to January 1856	1 00	John Smith to July 1855
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J. J. Walker " "	1 00	W. D. Mansfield to January 1856
H. J. Venable " "	1 00	C. C. Curtis to January 1859
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G. W. Kemper " 1855	1 00	John W. Wilson to January 1856
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Archibald Gills to July 1855	1 00	John Wilson to September 1856
N. W. Harris to January 1856	1 00	Isaac Hinele to January 1856
Wm. Anderson " "	1 00	W. Sayre to November 1856
Wm. J. Martin " "	1 00	Jas. T. Calhoun to January 1856
J. J. Scott to December 1855	1 00	Dr. D. Patteson " "
E. W. Scott to January 1856	1 00	Lewis C. Botts " "
Mrs. Dr. W. B. Smith " "	1 00	Wm. Mays " "
C. A. Morton " "	1 00	Hiram Hainsborough " "
Wm. E. Bradshaw to April " "	1 00	J. Smith " "
P. S. Smithson to May " "	1 00	J. B. French, " "
C. C. Read to March 1855	1 70	Col. John H. White to July 1855
W. H. Venable to January 1856	1 00	Robert J. T. White to September 1855
Robert Maddox " "	1 00	P. H. Jackson to January 1856
Peter McGehee to July 1855	1 00	W. M. Womaek " "
F. Eppes to January 1856	1 00	Rev. J. H. C. Leach " "
Dr. J. W. Eppes " "	1 00	Melville M. Jones " 1857
John T. Goodwin " "	1 00	S. B. Scott " 1856
Dr. R. E. Haskins " "	1 00	Wm. T. Johnson " "
Benj. Wigginton " 1853	1 00	T. N. Gee " 1857
Wm. Cowherd " 1856	1 00	Wm. A. Scott to September 1855
Col. Chas. Connor " "	1 00	M. W. Woods to January 1855
Dr. W. A. Christian " "	1 00	James C. Gates " 1856
S. Hansberger " "	1 00	Chas. S. Thompson to July 1855
Peter F. Boisseau " "	1 00	John Trimble " "
U. T. Jones " "	1 00	Col. Joseph Dupuy to January 1856
Isaac B. Edwards " "	1 00	Edward Hill " "
R. W. Griswold " "	1 00	J. W. Taylor " "
Wm. Anderson " "	1 00	Thos. Henderson to July 1855

Capt. H. C. Patterson to July 1855	10 00
Pendol Chiles to January 1856	1 00
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W. H. Carter " "	1 00
T. G. Perkinson " "	1 00
Maj. E. F. Redd to January 1856	1 00
H. F. Morton " "	1 00
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Thos. Purkins " "	1 00
B. B. Jones " "	1 00
Marshall L. Harris " "	7 00
J. C. Dickinson " 1855	1 00
Genj. C. Watkins, to Sept. "	2 00
Jacob Morton to June "	1 00
L. H. Osborne to January 1856	1 00
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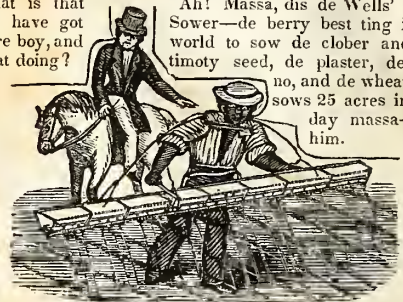
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What is that you have got there boy, and what doing?



Ah! Massa, dis de Wells' Seed Sower—de berry best ting in de world to sow de clober and de timoty seed, de plaster, de go-no, and de wheat. I sows 25 acres in one day massa—try him.

It is only by the use of valuable improvements that we can reasonably expect to keep up with the age in which we live, and public opinion everywhere has placed M. D. Wells' Improved Patent Seed Sower in the first class of agricultural implements. The above drawing exhibits it in use, and any ordinary mind must at once be impressed with the certain conviction that it is an indispensable implement of husbandry, and that every good farmer should have it. By its use you save time, which is money and labor which costs money, and experience in using it proves you will not be driven from the field unless by very rough weather, and the almost mathematical precision with which the seed is distributed, compared with hand sowing, renders it self-evident in the opinion of the best farmers that a saving or gain of two dollars per acre is made in two crops of grass and the succeeding crop of wheat, one year's interest on an acre of land at \$33 $\frac{1}{3}$ , and sowing three acres pays for a machine with lid at \$6.

The first premium was recommended for this machine at the late Virginia State Fair, and four of the committee (all having use for it) engaged one each; and we think if governed by your interest you will do likewise.

**MOTT, LEWIS & WILLSON,**  
Sole agents for Richmond—Agricultural Implement  
fe—tf Store, No. 36, Main Street.

**ROWE'S UNRIVALLED PRIZE CRUSHER** has had its patent extended for seven years from the 24th of April, 1854. It is generally acceded that this is the only Crusher worthy of the name. It has never failed to take all the first Honors and Premiums whenever exhibited, or brought in competition. It may be truly said, it has no rival. It is the only mill in the world that crushes to powder and mixes thoroughly, Corn, Cobs and Shucks or Straw; answering the treble purpose of Mill, Crusher and Straw-Cutter. It is unrivalled for pulverizing Rock-Plaster, Shells, Tanbark, &c.; and will outlast, in wear, ten of any other Crushers. For particulars address

**JAMES ROWE, Patentee,**  
Bainbridge, Decatur Co., Georgia.

I will furnish machinery for pulverizing Quarts and superintend the erection for \$1000, and warrant the mill to crush a ton per hour of running time. This does not include the engine belt or pulley on the motive power. Any wanting Portable Fence, strictly practical, address as above. ma2t\*

**GREEN MOUNTAIN MORGAN.**—A thorough bred Vermont Morgan Horse, a beautiful bay, of fine seize and remarkable bone and muscle, will make his next season, commencing 1st April and ending 30th June, at the stables of his owners, Col. T. J. Randolph of Albemarle and R. B. Haxall, Orange County, near Gordonsville, at \$12 payable during the season, \$15 if not paid before 1st July; \$20 insurance, payable as soon as the mare proves to be in foal.

Green Mountain Morgan has made two seasons in Virginia and his yearling colts are very superior and held at higher prices. mh4t