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"Agriculture is the chief foundation of a nation's power, as it not only furnishes man with food and clothing, but also with materials for the mechanic arts and commerce."

From the American Farmer.

Culture of Corn.

Corn Planting.—The time for commencing this work differs so much in our expanded country, that it is impossible to fix upon any particular period that would be universally proper; for although the corn is already up and flouting its luxuriant foliage to the breeze, in many of the states in which our journal circulates, it will not be time in others to plant for some weeks. Even in our own state, no particular day can be set down as the proper one; for such is the effect produced by a few leagues of location, that a difference of several weeks exists as to the proper time for planting, in remote points of our own limits. But although it may be considered too early for planting over a vast range of country, it is full time everywhere for farmers and planters who cultivate this crop, to be looking about them for manure to grow it with; for really it is folly, unless one's soil is really rich in organic as well as inorganic elements, to expect a large crop of corn, without giving it plenty of manure. The very structure and size of the plants—their habits and rapid growth—would tell us that such is the fact, if costly experience had not long since convinced all observing corn-growers of the truth of what we here affirm. Without the elements to form the grain out of—to sustain the stalk in its wholeness, and enable it to elaborate and perfect its seed—be in the soil, disappointment must necessarily follow every attempt to grow large, or even comparatively profitable crops of corn. If what we affirm be true, and we believe every candid, thinking farmer, will say that it is, then it should be the duty of every one, who desires to make corn-growing a profitable business, to make the accumulation of manure a chief principle in his system of farming. It is not sufficient for any one to say, that he has not the time to devote to such object—for it is alike his interest, and his duty, to take the time. On many farms—especially those having the advantage of water fronts—the materials for making manure are so abundant, that it would be an object to keep a hand and team the year round, engaged in collecting them. On such estates, substances are to be found, in such abundance, that it would seem to be a sin, not to avail one's-self of their enriching properties, as there can be no question, but that Providence placed them there, that man might be induced to appropriate them to the uses of his crops. We were on a visit last summer at a friend's, whose estate fronts the bay shore, and creeps making out of it, for upwards of two miles. His shores were lined at different points, with thousands of loads of the very best kinds of materials for composting into manures; and yet he had never used any of them; and the only reason he had to give, was, that he could not spare the time necessary to collect them, as if the time and labor which might be thus appropriated, would not result in more profit to him, than any other time and labor to be bestowed on his farm. We left him with the promise, that he would set his hands to collecting and composting them the following fall. If he did so, we should like to hear what results they may produce on his crops the present season. If he followed our advice, as to the mode of composting the rough materials on his shores, with ashes and plaster, or with barn-yard manure and plaster, we feel very sure, that the effects will so tell upon the products of his corn crop, the present year, as to make him a be-

liever in the faith which teaches, that the first duty of a tiller of the soil, is to accumulate manure. Neither man nor beast can effectively labor, unless he be well fed, so is it with the soil—unless the substances abstracted in the growing of crops, be replaced—be re-supplied—exhaustion, impoverishment, must be the inevitable consequence. In this replacement, and re-supply, one need not be so very choice in his selection, for all animal—all vegetable bodies—may be usefully and profitably, put in the compost heap, if you apply the proper leaven to excite fermentation and decay. One load of barn-yard or stable manure, if it be good—if it shall have been properly taken care of—or 5 bushels of ashes, will be sufficient to convert two loads of marsh, river or creek mud, or wood's-mould and leaves, or ditch or road-scrappings, or the earth from headlands, or fence corners and sides, into good manure. To every twenty loads of such materials, one bushel of plaster, or from 2 to 5 bushels of salt, whichever be the most convenient or economical, should be added. Over every layer of the coarse material, plaster, salt, or charcoal dust, should be spread, as the compost heaps are being formed, to arrest and economise the volatile principles of the substances, as they may be elaborated by the processes of the decay of the rough materials; for in all the substances we have named, and all others of a kindred nature, there are large percentages of nitrogenous matters—large percentages of those elements which, under the operation of decomposition, generate ammonia, that substance which gives to Guano so much of its active virtues—so much of its agricultural value. We do not wish to be understood as desiring to convey the idea, that in the production of ammonia, the substances named by us, have anything like the same quantities in their composition, as are to be found in Guano, for such is neither our belief, nor our object; but, if applied in the quantities named by us, they will answer fully as well, as do the ordinary dressings of Guano given to an acre of land.—We believe, that 20 double-horse-cart-loads of compost, prepared as we have dissected, would impart equal present benefit, as would a dressing of 2, 3 or 400 lbs. of guano; while its effects, in the melioration of the soil, would be much longer continued. We are aware, that the collecting of the materials, and the formation of such compost heaps will occupy considerable time. Be it even so; for time and money cannot be better applied and expended. We know situations, where one man and a team could collect twenty loads in a day, which would, with the additions we have named, manure an acre of land so that its yield would be double,—and certainly, no one will question the profitableness of such result.

While we are upon the subject of materials for forming manure, we desire to impress the value of one upon our readers, that almost every body neglects,—and however distasteful its name may sound upon the delicate ears of some, we will name it; for, as no one need be ashamed of telling the truth, so should no one, who feels an interest in the welfare of the Agricultural community, permit any false notions of delicacy or taste, to deter him from proclaiming a great agricultural truth. We allude then, to the *Urine* made about the homestead and quarters. Is it saved? No! But it should be, and may be, without much labor, and with but very little expense. Having spoken of *Urine*, it behooves us to state the elements of which it consists.

According to *Berzelius*, 1000 lbs. of human urine consists of the following substances, in the quantities named:—

Urea*	30.10 lbs.
Lactic acid, lactate of ammonia, extractive animal matter	17.14
Uric acid*	1.00
Mucus	0.82
Sulphate of Potash	37.01
Sulphate of Soda	3.16
Phosphate of Soda	2.94
Muriate of Soda	4.45
Phosphate of Ammonia	1.65
Phosphate of Magnesia and lime	1.00
Muriate of Ammonia	1.50
Silicic Acid.	0.03
Water	933.00
	1000

Here then, in the above analysis of *Urine*, we have all the elements which enter into the composition of the wheat

*The Urea and Uric acid, will make as many pounds of ammonia.

plant, or, indeed, of any other of those plants which are cultivated by man, and so happily blended together, as to be— to use a trite phrase—already cut and dried, ready to be taken up by the plants. Why then, should it be wasted? And who, pray, thinks of saving it? Very few, indeed. And why not? Is it because it is too unimportant a matter in agricultural economy, to be worthy of consideration? If that be your opinion, you labor under a most egregious error, as we shall presently attempt to show you. The theory is that each pint of urine has in it the constituent elements necessary to make a pound of wheat; well then, as every healthy grown up human being, is presumed to excrete 3 lbs. of Urine daily, if such liquid voidings be saved, and appropriated to that purpose, it is competent to grow with this kind of the product of one man, per year, 1095 lbs., which is equal to 18½ bushels of wheat. So, if we rely on theory as being correct—and we doubt it not,—it may be assumed, that the liquid evacuations of one individual, is sufficient to afford the necessary manure for an acre of land to be cultivated in wheat,—and, indeed, in almost any other crop. But suppose we reduce this estimated value, one-half, to make allowance for wastage, in various ways, and we will then still be able, by this means, and from this source, to manure half an acre of land for every healthy adult member of our families—and do it well—besides deriving a large additional supply of the enriching material, from the junior members of our households. Let us carry out this calculation to the entire population of our country, and what is the result? Theory gives the capacity to a pound of urine, of producing a pound of wheat, or that the quantity voided by one individual in a year, is sufficient to produce 18½ bushels of wheat,—then, as we have a population of 22 millions of human beings, if we assume, taking the old and the young together, that, in the aggregate, one-half of the quantity of urine is annually produced, then there is enough made, to manure 11 millions of acres, or to produce 25,350,000 bushels of wheat per year, and yet all this *home-made* guano, is wasted, as a thing utterly worthless, while every one, who can command the money, is investing it in the *foreign* article, which is not, intrinsically, a whit better.

Having spoken thus strongly of the value of Urine, we will state how we would manage to save it from deterioration—to preserve its animal parts from loss, by the evaporation of its volatile elements. Daily, as made, we would sprinkle plaster over it, stir it well, and then pour it on a collection of earthy matter, which we would have collected and placed in a convenient place for receiving daily additions of urine. Say, that 100 loads of marsh mud, wood's-mould, or kindred matters, were hauled into the barn-yard, and made up into a cone-like form, and that different parts of it were opened each day, to receive these deposits: in the course of a few months, the whole mass would be completely charged with the riches of the Urine, and be converted into a body of the most active fertilizing manure, as the ammoniacal elements of the Urine, would be seized upon and fixed by the Sulphuric acid of the plaster, form the sulphate of ammonia, and thereby, to a very great extent, be preserved from loss from escape in a gaseous form. The same conservative effect may be produced, by dissolving Epsom Salts, or Copper in the Urine, or by mixing finely pulverized charcoal, or common salt with it. Either of which substances are excellent manures, when properly applied, and would prevent all offensive smell arising from the urine. It would be well to have the apex of the mould-pile covered by a few boards, if not under cover, to turn the rain and protect it from having its salts washed away.

In connection with Urine, we would have the soap-suds, made in the laundry, also poured upon the earth pile; for of a truth it is a most excellent and active manure. We say this, without regard to theory—which establishes its value—from a practical experience in their use.

We purpose now to return to the subject of corn-planting, and all matters akin to its cultivation.—As a basis to rear our superstructure upon, we will give analysis of the *inorganic* parts of the grain, cob, and entire plant, as also, of what quantities of matters are supposed to be abstracted from an acre of land by a fair crop of corn. By these lights we will be able to determine what manures we ought to use, and in what quantities, to grow an acre of corn, and how to keep the soil from deteriorating.

Analysis of the inorganic parts of the Grain, Cob and Stalks of Corn when ripe.

Carbonic acid,	0.850	9.445
Phosphoric acid, with a little peroxide of iron,	49.210	13.105 14.550
Lime,	0.075	3.833 5.672
Magnesia,	17.600	6.745 6.617
Potash,	23.175	34.400 23.396
Soda,	3.305	11.495
Sodium,	0.160	22.787
Chlorine,	0.295	7.096
Sulphuric acid,	0.515	1.866 10.970
Organic acids,	5.700	
	99.175	

Silicic acid,	10.320	75.980
Chloride of Sodium,	1.980	
Organic acids,	6.430	
Phos. per ox. iron,	.445	
Phosphate of iron, lime and magnesia,	17.042	

The above Analyses are by professor *Salisbury*, who is the author of the most minute series of Analyses of the corn plant, in all its parts, and stages of growth, ever made.

(Remainder in our next.)

From the Plough, the Loom and the Anvil.

The Application of Salt as a Manure.

The application of common salt as a fertilizer has been partially understood and practised by a few of our agriculturists, but we very much doubt whether the full benefits of this substance have been derived by those even who have made the experiment, and in some degree realized the advantage it affords. It may be applied advantageously directly to the soil, or it may be mixed with the dung heap. It is found beneficial to pasture as well as root crops, sweetening vegetation and rendering it more wholesome. It attracts the humid vapors and repels frost, thus assisting in keeping the land moist in dry, and warm in cold weather. Salt renders all the ammoniacal compounds less volatile, and helps to prepare the food of the plant for vegetable aliment. When applied plentifully to the manure-heap, it destroys all vermin, and the germs of life in the seeds of weeds and noxious plants are by its effects entirely exterminated.

In making use of salt in the manure-heap, or compost-bed, but little should be used if fermentation is desired, as in large quantities it retards, and will frequently entirely suspend it; but a short time previous to the application of the manure to the land, salt may be freely used with great service to the crops. Mixed with lime and its compounds, it undergoes decomposition, producing soda or its combinations with carbonic acid, which is a powerful digester and feeder, and forms muriate of lime, which has the strongest attraction for moisture of almost any known substance. With gypsum, it will supply, soda and sulphuric acid cheaper than any other material, and is a very good safeguard against blast, mildew and disease in grain and vegetables.

When salt is applied to the soil at the rate of about ten bushels to an acre of either grass or vegetables, it renders the product more nutritious, and generally increases the yield about one-fifth. The wheat crop is also increased by its use, from four to seven bushels per acre. For asparagus, or seakale, it may be used in much larger proportions, using from two to three pounds per square yard, forking it in early in the spring. This application renders the product much more palatable and tender, and destroys all weeds and noxious vermin, rendering its culture most easy and its growth more vigorous and rapid. It is also said to bring crops forward nearly ten days earlier than when planted without its application.

As a stimulant to vegetable substances, salt has been long favorably known in England, and various experiments have been made confirming this truth. Dr. Priestly added to vials each containing an ounce and a half of water, various proportions of common salt, from one to twelve grains, and in the solutions placed various sprigs of mint and other vegetables. In those solutions which contained more than twelve grains, the plants died immediately, and the others died in their order, except that which contained three grains of salt, which seemed to grow as well as plants growing in simple water. It was remarkable, however, that this plant, as well as those that died in the strongest solutions, seemed to flourish at first more

than those which were growing in simple water, and that, which had three grains of salt and that which had one grain only, continued to live after the plants in simple water were dead. (*Nat. Philos.*, vol. i., p. 106.) That vegetable substances are capable of being stimulated by chemical solutions, is well known. A solution of chlorine in water will make certain seeds vegetate which would otherwise rot in the earth; and a mixture of camphor, &c., has been found to be very beneficial in restoring vitality in cuttings of various exotics too long delayed in their passage.

Salt, it should be remembered, rarely causes the wheat plant to grow larger or taller, but it fills up the ear better, and brings the weaker plants forward. Mr. Sinclair says that "salt appears to lessen the produce of straw, and increase the weight of grain." I have never been able, says Johnson, in my experiments, nor in any I have witnessed, (with salt alone,) to observe any increased quantity of straw even in cases where there was an increased produce, by means of salt, of six bushels of wheat per acre. The salt should be applied some time before sowing the seed, not less than ten, and not more than twenty bushels per acre. In my own experiments upon a light gravelly soil, at Great Totham, in Essex, the use of this quantity of salt per acre (in 1849) produced an increase of five and a half bushels per acre.

The testimony of an Essex farmer corroborates these results. "The soil," says Mr. James Challis, of Penfield, which is of rather a loose hollow description, had a dressing of salt in November, after the wheat was sown, about fourteen or fifteen bushels per acre: it produced at the rate of six bushels per acre more than that which was not dressed, and it is better in quality."

It is a custom in most counties of England, to apply salt and water as a steep to prevent the ravages of the diseases in wheat called the smut; the value of this is known to almost every farmer. Recent experiments have suggested that it may even be of use, when employed in larger quantities as a preventive of disease to which the cultivated grasses are exposed. The experiments of the Rev. E. Cartwright strongly evidence that when salt and water are sprinkled with a brush upon diseased plants, it effects a complete cure, even in apparently the most desperate cases. "The proportion one pound to a gallon of water, laid on with a plasterer's brush, the operator making his cast as when sowing corn, is instant death to the fungus." The time and expense are trifling. It appeared, in the course of some inquiries made by the Board of Agriculture, that a Cornish farmer, Mr. Sicker, and also the Rev. R. Hoblin, were accustomed to employ refuse salt as a manure, and that their crops were never afflicted with a rust or blight.

As a manure for grass land, meadows, &c., salt has been used in all parts of England, with varying success. It always, however, sweetens the herbage. It has been employed at the rate of 6 to 16 bushels per acre, and where the primary object has been the destruction of the old turf, even 30 to 40 bushels have been successfully employed on the same extent of land. It has the effect of completely preventing worm-casts on lawns, &c.

In a letter from Mr. Collins, of Kenton, Devonshire, he says: "One of my neighbors writes me, 'in using salt as a manure on grass land, I have found the salt portions not to be affected by severe frosty nights, when every blade of grass on the unsalted portions has been in a frozen state. I observe, too, that it is destructive to every kind of grub-worm; and I am convinced, where it has been used with judgment, that it has not failed.'" Another intelligent neighbor, continues Mr. Collins, "whose farm is almost entirely a light black sand, writes, 'I have found salt to answer my most sanguine expectations for barley, oats, potatoes and turnips, both as to the increased quantity and improved quality of the crops, of which I can now give ocular demonstration: my barley and oats which used to yield me only 15 to 20 bushels per acre, now yield from 40 to 50."

My wheat is certainly much improved in quality, but I expected more in quantity. I have 35 bushels of wheat from an acre dressed with 10 bushels of salt; and from the same field last year, after the same quantity of salt, 140 bags of potatoes per acre. This year again, dressed with 10 bushels of salt, I have not more than 20 bushels of wheat per acre, but the quality very superior indeed, and the root of clover in it very fine and luxuriant. In every field I

have sated, I find the grass very much superior to any produced before the use of salt.' I have since, adds Mr. Collins, gone over his farm, and am astonished at the verdant pastures, in what used to be coarse and rushy meadows. In this arable land, he never got more than ten bushels of wheat per acre until he used salt; so that this is a decided improvement."

ORIGIN OF CANT PHRASES.

In the State of Tennessee, there is a certain village, boasting of its tavern, three stores, and four groceries, where from morning till night, and from night till dawn, a person entering the town may find, in the tavern, stores, or groceries aforesaid, one or more groups of persons playing cards. Gambling there is reduced to a science, the history of four Kings is thoroughly studied, and from the school boy to the grey-headed veteran, from the miss in her teens to the mother of a large family, they are initiated into the mysteries of high, low jack, game; right and left bowers; the honors and the odd trick.—One of the best players in the village was Major Smith, the tavern keeper; or, as he expressed it, the proprietor of the hotel; a widower, who, like

"Jeppha, Judge in Israel, Had a daughter passing air."

Fanny, the daughter, was one of the prettiest girls in Tennessee, and therefore one of the prettiest in the world; for we here digress in order to lay down as our *ipse dixit*, that Tennessee woman, in point of beauty, are matchless. The sweetheart of Miss Fanny was a young farmer, residing in the neighborhood, whom we shall designate by the name of Bob.

It happened, that one day before harvest the young man was detained in the village, and found him as usual at the hotel, seated between the Major and charming daughter. After a desultory conversation between the two gentlemen, on the state of the weather, the prospects of the approaching harvest, and such important staples of conversation, the major asked Robert how his wheat crop promised to yield. In reply he was told that the young farmer expected to make at least one hundred bushels. The Major appeared to study for a moment, then abruptly proposed a game of old sledge or seven up, the stakes to be his Fanny against the crop of wheat. This, of course, the young man indignantly refused, because he could not bear the idea that the hand of her he loved should be made the subject of a bet, or that he should win a wife by gambling for her, and, perhaps, because he knew the old man was "hard to beat," and that there was a strong probability of his losing both wheat and wife.

It was not until the Major, with his usual obstinacy had sworn, that unless he won her, he should never have her, that the young man was forced reluctantly to consent to play.

The table was placed, the candles lit, the cards produced, and the players took their seats, with Miss Fanny between them to watch the progress of the game. The cards were regularly shuffled and cut, and it fell to the Major's lot to deal. The first hand was played and Robert made gift, to his opponent's high low, game. Robert then dealt, the Major begged, it was given and the Major again made three to his opponent's one.

"Six to two," said Miss Fanny, with a sigh. The Major, as he again dealt the cards, winked knowingly and said, "I am good for that wheat, Master Bob." The old man turned up trump, it was a spade. Fanny glanced at her father's hand—her heart sank, he held the three and eight spots and the king! She then looked at Robert's hand, and lo! he held the ace, queen, deuce, and jack or knave. She whispered Robert to beg, he did so.—"Take it," said the Major. "Three to six," said Miss Fanny, aloud. Robert led deuce, which the Major took with three spot, and followed by raising the king, Robert put his queen on it. The major supposing it was the young man's last trump, leant over the table, and tapping the last trick with his finger, said, "That's good as wheat." Is it? asked Robert, as he displayed to the eyes of the astonished Major, the ace and jack yet in his hand. "High, low, jack, gift, and the game," shouted Robert. "Out," sentimentally ejaculated Miss Fanny. "Good as wheat," added Robert, as he flung his arms around her neck and kissed her.

In due time they were married, and ever after that, when anything occurred of a pleasant nature to the happy couple, they would express their emphatic approbation of it, by the phrase, "Good as wheat."