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AN ADDRESS

DELIVERED BEFORE THE

CHARLES COUNTY AGRICULTURAL SOCIETY,

By Hon. WILLIAM D. MERRICK,

AT THEIR

THIRD ANNUAL MEETING,

Held in Port Tobacco, in October, 1850.

Mr. President,

and Ladies and Gentlemen:

To a heart devoted to the revival of the languishing agriculture of our county, nothing could be more refreshing and cheering than the lively interest in that object manifested by the assemblage of so large a portion of our valued fellow-citizens as we see here collected. And it cannot be without salutary effect upon the same great object, that there is so large an infusion of beauty and fashion, elegance and refinement of the fairer portion of society, not only participating in the proceedings, and competing for the premiums of this our annual fair, but being, it would seem, even willing, in their zeal for the cause, to be taxed with listening to a prosing discourse from the unworthy individual who has been selected to deliver your annual address. Encouraged by this, the members of our Society may well be stimulated to active perseverance in the good work they have so auspiciously commenced, seeing, as they now do, such gratifying proofs before them, that their past labors have not been without signal success, in awakening the attention and exciting the concurrent good wishes, and, I trust I may add, cordial co-operation of so many of those we most love, esteem and admire, and who so well deserve the love, esteem and admiration of us all. Whilst the presence of such an audience must be eminently gratifying to you, Mr. President, and to the members of the Society generally, the gratification of him who addresses you is not unmingled with painful apprehensions, arising from the consciousness of his inability to do justice to the occasion and his subject, and the consequent danger that some may fail in their good feelings and sympathy with the purposes of our association, because of the defects of your unworthy organ. Agriculture is a practical science. It deals, or should deal, with homely, practical and plain truths, never indulging in figurative imaginings, nor fanciful theories. Artificial ornament does not become it; the flowers of rhetoric, the seductive license of poetry belong not to it. Reality, substance, the actual welfare of mankind are its elements and principles. In itself, and in its objects and its results, it is most valuable, and, to the rightly disciplined mind, it is no less beautiful than valuable. But its beauty and its value are inherent, and, like the brilliancy of the diamond, admit of no ornament. A discourse then, on agriculture, "when unadorned is adorned the most." I must, therefore, disappoint those, if there be any such present, who may have expected to hear pathetic phrases to touch the heart, or brilliant metaphors to dazzle and delight the imagination, or softly flowing numbers to melt upon the ear. I must address myself to barren heaths, and craggy hills, and boggy moors, and invite your aid, each one, in his proper sphere, to remove these blemishes from the otherwise fair face of the county we inhabit, and to convert them into substantial beauties; to convert these scenes of disease and squalid poverty into verdant fields and teeming meadows, and to substitute the richness of the golden harvest, the fragrance of the new-mown hay, and the music of the lowing herd for the waste and desolation with which we are now too generally surrounded. I invite you, therefore, not to a feast, but to prepare for a feast. I invite you to nerve yourselves for toil now, that you may rejoice hereafter, and I ask you to go to the task with a purpose that will not flag, an eye that will not wink, and a nerve that will not tire, and I promise you in return, healthy bodies, happy homes and joyous hearts.

The question arises, how are these things to be accomplished? I answer, in various ways, and each and all are the ways of pleasantness and peace. Yonder glorious sun does not shed its benignant rays upon a more generally favored region, nor one better adapted in its natural capabilities to yield a rich reward to industry, skill and economy than the region we inhabit. And I do not hesitate to assert, as the result of fifty years experience and attentive observation, that there is no young man of healthy body, sound head and pure heart, coupled with industrious habits, however destitute of property he may be, who may not here, in Charles county, as an agriculturist, certainly become a man of wealth before he reaches the meridian of life, enjoying too, the while, comfort, plenty, respectability, happiness! Yet these advantages have been neglected; these desirable results have not very frequently, though they have occasionally been attained; and we see our county sparsely peopled, its advantages and capabilities undeveloped and unknown, and hundreds of thousands of acres capable of the highest improvement, and of being made to contribute incalculable amounts to human subsistence and human enjoyment, lying waste, neglected and abandoned; and many, many thousands of acres more, so poorly cultivated, so neglected, starved and otherwise maltreated, as to make every one wish to shun the sight.

Wherefore does this state of things still exist? I will not attempt to tell; but this let me say, the fault is our own. The remedy is within our reach, and thanks to you, sir, and to those associated with you in the organization and conduct of this Society, the spirit manifested on the present occasion gives assurance that the remedy is about to be vigorously applied. What is that remedy? First in the thoughts perhaps of most of my audience, if not in fact, is the direct means of restoring, or of imparting anew, fertility to our impoverished soils: and the inquiry is for the best and cheapest mode of effecting that object. Of this I will therefore speak first; though in my own view of the subject, and according to my observation, it is not the first, nor by a great deal the most difficult thing to be done; but it will follow as a natural, easy and almost certain consequence of amelioration of a different kind, which must precede all and every successful attempt at a general improvement of our lands, and without which, the best theories, the largest experience, the most matured systems of fertilizing will be produced, explained and illustrated again and again in vain: I mean a thorough reform in many of our habits. But, first, of the direct means of improving our soils. So wide a field is here presented, the materials are so abundant and multifarious, that it is extremely difficult to know what scope one can allow himself without danger of transcending the proper limits prescribed alike by the occasion and your convenience and patience.—Our object is to make two blades of grass or two ears of corn to grow where one grew before. The mind naturally then inquires by what agencies did the first one grow. Knowing these, if they are subject to our control, our object can be accomplished; but these agencies are not single, they are multitudinous, qualifying and moderating or exciting each other in such an infinity of ways as often to elude our closest scrutiny. Many of them too are so minute or so subtle that they are practically beyond our control, as light and electricity. So it is extremely difficult, perhaps it is impossible, for us to know the precise agencies which occasion vegetable growth; yet, by scientific research, observation and experience, we have acquired much useful knowledge on the subject and may still acquire much more. Although we do not know nor understand all these agencies and their modes of action, we have yet been able to discover the potency of many of them, and, to a degree, the concurrent action of most of those of a cruder or more material nature. Enough we have discovered to serve as a lamp in our path, and to teach us to search for more. We know that the most solid rocks are being broken down, the hardest minerals are dissolved and enter into the composition of the most delicate vegetables. We know too the softest and most fluid of materials, water, air, light, are solidified and enter into, and make a part of, the most solid substances which are constantly being produced in the great workshops of nature. We know that this decomposition and composition of matter is constantly going forward, according as the agencies and component materials of organized substances are brought into such relative positions as to allow of their appropriate action and re-action taking place between them. We also know that these same component materials, placed beyond the reach of dissolving and assimilating agents, will be dormant and inert in their original form for ages upon ages. Hence, we see how important to agriculture is science; how eminently promotive of success in improving our soils are, or may be, the lights which she sheds in our way. Hence, we see too how it may be that a soil apparently barren—nay, actually barren—may contain all the elements of fertility save only one, and wanting that but in minute quantity—an alkali, or an acid, or both in the form of a neutral salt, to serve as a solvent or a stimulant, or a neutralizer—such as gypsum, lime, &c., whose action may be likened for illustration, to that of yeast in your bread. These, when absent, we can supply in sufficient quantities at moderate cost and with great profit upon such soils. Chemical analysis will shew the soils in which they are deficient; so will experiment, the safest teacher. My belief is, that it is in one or the other of these substances that the deficiency of the great body of our lands consists. They certainly seem to possess the other and more bulky elements of fertility in great abundance. Soda, magnesia, or potash, may also be deficient in some, or most of them, but of these the quantities required, if the deficiency exists, are but small, and moderate effort will supply them.

From what I have before said, it will be seen, too, how it sometimes happens that a thin stratum of sterile earth may over-lie a rich and highly productive soil, which only needs being brought within the reach of atmospheric influences, by deep ploughing, to shew its fertility; or again it may be, that by mixing the upper with the second stratum, in like manner, by deep ploughing, each supplies materials for the promotion and growth of vegetable matter in which the other was deficient, and thus an excellent soil be made where either strata, separately tilled, would have continued unproductive. In these, and such like instances, the labour, skill and science of man can be applied in concurrence with, and in aid of, the great and uniform operations of nature successfully and most profitably to himself. Upon what are called good neutral soils—that is, soils containing in abundance almost all the elements which enter into the composition of vegetables, or all the more bulky of these elements, and yet inert—the work of improvement is easy; and of this character, free from the obstructions of stones and rocks, free from torrents and abrupt precipices, of level and gently undulating surface, is the county we inhabit.—Invitingly it lies spread out before us, seeming to need but the touch of the magician's wand to spring into new life and vigor and teem with abundance. Were many, or indeed any, of the bulky constituents of plants absent, or much deficient, very different would be the task we propose to undertake, and it would at once be acknowledged to be too difficult or impossible of execution. But this is not the fact. And we have but to apply our minds and hands, guided by the knowledge we have already acquired, or of easy acquisition to all who will diligently search for it, and the task will be accomplished. We must know or ascertain by the aid of scientific analysis or experiment, or both, each one for himself, the true character of the fields we would improve, that we may act in each case in concurrence with, and not in contravention of, the workings of nature; that we may supply that which is wanted and not that which is already present in sufficient or perhaps redundant quantity; for although the same general characteristics prevail throughout, yet, in our alluvial region, there are many modifications rendering the alkali in the one instance, the acid in another, and the salt in the third, the proper material to be supplied, as is seen by plaster acting finely on one portion of a field and up to a given line or slope, beyond which it is inert, and pure lime becomes on this second portion active and efficient! It is needless for me to tax myself or you here, by giving or attempting to give the results of any chemical analysis of soils taken from this or that locality. This has been done and better done, time and again, by others; and besides it could amount to nothing more than useless display or worse; it might lead into error. Human labor is too valuable, has too much about which it may with certainty of beneficial results be employed, to be trifled with in this way. If we attempt to work by the teachings of science, she must be brought to act on the precise spot where we mean to operate, and thus the danger of different interfering agents and substances be avoided, and certain knowledge obtained; and to this, in great measure, are attributable the superior advantages of practical experiments. These are unerring in their teachings, and, besides, they are within the reach of all, the unlearned as well as the the learned and scientific.

Enough has been said to shew that we should not expect to improve by attempting to supply, to any great extent to the soil, the actual food of plants, but rather by preparing the food already in place and supplying its condiments; or by removing or neutralizing deleterious substances which may be present. To some extent, it is true, the materials we supply may and do become actual food, and are detected in the composition of the plants produced, but this can only be to small amount, though it may yet be essential; but it is apparent that a bushel of plaster, a few bushels of lime, or guano, or of ashes, or a few pounds of soda, or magnesia, cannot, by serving only as food for plants, increase the production to very many times their own bulk and weight.—The first mentioned then, must be the chief mode in which the wonderful effects of these and other fertilizers are wrought. I have said the composition of vegetable and other substances was constantly going on upon the face of the earth, by force of the unalterable laws of nature, wherever the materials and agencies necessary to the composition of any particular substance, were brought into such relative positions as to admit of the appropriate action and re-action taking place between them; and I have shewn you that, for our purposes, very much the greater part of all these materials and agencies already abundantly exist in our soils, or in the air—that is, they are present, but inert, locked by some secret spring which you are to touch. To find that spring and touch it aright is your first task, and here you bring into requisition the highest faculties of the intellectual being. Here you employ that richest boon of our beneficent Creator, and of which he has been so especially bountiful to you. This task is not so difficult as at first it would seem. Study, reflect attentively, experiment often and cautiously, and you will find it easy—"Knock and it shall be opened unto you. The germ or seed of the particular plant we wish to produce is one of the elements or agencies we have to supply—applied, we soon see it dilate, expand, absorb, assimilate, appropriate to its own organism other substances, till it reaches its natural growth. It throws out its rootlets, it expands its leaves, it absorbs elements from the earth, spreads them out in its leaves to the light and heat of the sun, elaborates them there, absorbs through these organs other elements from the atmosphere, and throws off, through these and through the roots, redundancies. All this we see; and we know that many subtle as well as grosser agencies have been at work to produce these results. We know that light, heat and electricity, have played their part; water, and air, and earths and metals, have been employed. But we do not know their modes, proportions, nor relative influences. We do know and learn from this, however, that great results may be produced by apparently slight exciting causes, and that, co-operating with nature and observing her laws, it is in our power to effect wonders. The germ, we have always seen and known, was to be supplied; but that will not always act. It is of other agencies, those which will prepare the soil for the easy and effectual action of these germs, we are in search; but from the potent action of this minute germ we learn that those agents need not be of such vast bulk as to weight us down and deter us from the pleasant and profitable task. The work of improvement consists not so much, therefore, in supplying directly the food of plants, as in applying to the soil those things which will make it yield up readily, to the functional action of plants, their appropriate food, which is already contained in the soil in abundance—in adding this leaven to the bread,—and in bringing, by tillage, these various elements of vegetable composition into their appropriate relative positions or contact. Thus it is easy to account for the apparently mysterious and wonderful effects of small quantities of the alkalies, the acids, the alkaline earths and the salts—such as are, or are contained in gypsum, lime, guano, ashes and the like. In the putrescent manures of the farm-yards, and in all decaying vegetable matter, we have these acids, alkalies and salts, in small proportion, mixed with large masses of the other more bulky elements, consequently, these have to be applied in far greater quantities.—Though they are more uniformly certain in their effects because they contain *all* the vegetable constituents, yet the supply of some of the essentials to vegetable growth, may be, and often is, very scanty in decayed vegetable matter, when it has been grown in soils deficient in any of these essentials. Hence the greater efficacy and durability of these "never-failing fertilizers," as they have been called, when preceded in their application by the use of lime, or others of the more active agents, above mentioned, according as their use may be indicated by the nature of the soil.

Commendable efforts have been made by our State authorities to supply us, in our search after accurate knowledge in these respects, with the full benefits of the lights of science, by the institution of the office of State Agricultural Chemist, and the appointment to that office of a gentleman, who, judging of him as I am obliged to do solely by his last annual report, is undoubtedly a gentleman of great courtesy, and also a man of learning and science. We have not yet had the happiness to see him amongst us. His duties elsewhere have, of course, deprived us of that pleasure and advantage hitherto, but he will doubtless in due time visit our county, and I persuade myself to hope that we shall derive much useful information from his visit. When he comes, such of you as may desire or need it, can bring science to act for you, as I have before suggested, upon the particular spots you wish to improve, and there to give you such accurate information as will secure you from error and give success to your enterprises. But though much good has been and probably will be done in this way, it is unwise and unsafe to wait for or to rely too much upon it. Science will lend its aids, and most valuable and important aids they are; but his own close observation, his own reason, reflection and experience should be the farmer's main reliance. His calling is an independent one, his employments are such as strengthen the body and invigorate the mind. He should take nothing upon trust, but subject everything, every scheme proposed for his adoption, to the careful scrutiny of his own ripe judgment, and bring it, where practicable before venturing too far, to the test of actual experiment. The aids of science I earnestly advise you to invoke, but at the same time let me guard you against her enthusiasm.

Quitting now this higher sphere, let me dwell for a few moments upon my own opinions, practices and experience. They are for you to test, adopt and practice upon, or repudiate, as your better experience or varient circumstances may dictate. But, as I have already said, our soils are for the most part of a homogeneous nature; occasional differences there are, which your own vigilance and acuteness must detect and accommodate by your practices, but generally it is the same. Upon our lands then I am convinced that LIME is the first, greatest, best of all improvers. Without it, according to my experience, all other applications, if they do not fail of their immediate effects, so soon pass away—are so evanescent—that they scarcely repay in many instances the expense and trouble of collecting, preparing and applying them. Hence, in some measure, it is that we often see our best managers and most thrifty farmers, year after year, applying large quantities of rich putrescent manures or other fertilizing substances, to the same small spot of earth, from which they no sooner take a crop, and this not always a good one, than it is again very nearly as poor as before any manure was applied! Yet, we know that in other regions where putrescent manures alone are relied upon, a manuring once in seven years is considered sufficient. Without being preceded by lime, I have found these putrescent manures to fail of their effects, more especially on the grain crops. There will generally be produced an abundance, even a rank growth, of stalk and blade, but the power to elaborate the rich juices thus supplied seems to be wanting, and the grain fails both in quantity and quality. Lime is, of itself, we know, directly and eminently fertilizing, an essential food for plants; but, as a meliorator of the soil and the basis which gives efficacy and permanency to most other improvers, and especially to those drawn from the stables and barn-yard, it is invaluable. I do not mean to advise the application of lime in conjunction with those other manures, but I earnestly recommend its application to, and incorporation with the soil, as a preliminary step to the application of other manures, in all cases where it is not already present in sufficient quantity; and this is the case in our county, I believe, only on our shelly lands upon the margins of our oyster-bearing streams. By very many of our citizens lime can be had from their Indian shell-banks, near the margins of the rivers and creeks, at a very trifling cost in labor and fuel, and for such there is no cheaper manure; but all can procure it for a very moderate price—say, 6 or 8 cents per bushel,—delivered within a few miles of the land to which they may wish to apply it, and at this rate no man who wishes to give permanent fertility to his farm, should hesitate to use it freely. Many questions have been started and discussed, and various opinions have been formed as to the proper quantities to be applied and the mode of its application. There is probably no general rule which will hold good in all cases on this subject, some special circumstances existing, in many instances, to modify or alter the applicability of every such rule; and it is a satisfaction to know that any error committed in this respect, unless it be by applying too small a quantity, will be corrected by the quiet operation of a little time. But according to my experience, the best mode of application is to spread it immediately upon the surface, and there let it remain undisturbed as long as conveniently may be—a year is better than any shorter time. The quantity used should not be less than 100 bushels slaked lime per acre, and if there be much vegetable matter, or much mineral or vegetable acid in the soil, 200 bushels or more may be used with safety and advantage. This I cannot too earnestly recommend to each and every one of you, my fellow-countymen, who seriously sets about enriching his lands, as the first great step in manuring and the foundation-stone of certain success if you persevere in your efforts. Next in importance is the farm-yard, stables and compost heaps. To have abundant supplies from these sources should be the constant care, the unceasing effort of every one who desires to better his condition by the pleasant and healthful and honorable employment of a cultivator of the soil. Every species of offal on the farm or in reach, wheat straw, corn stalks, marsh grass of any and every kind you have, leaves and mould from your wood lands—in short, every species of vegetable matter in its crude or partially decomposed condition, which your means will enable you to collect—should be converted by these, as they may be, into active manures. This operation should be going forward at all times, in summer as well as in winter. Let the old and wasteful and slovenly mode of making summer cow-pens, to be removed at short intervals, and never littered, be abandoned, and spacious, permanent enclosures, partially sheltered, be provided for your stock in summer as well as winter, where they are to be folded every night, with abundance of the crude materials I have mentioned supplied them, and they will be manufacturing wealth for you and abundance for themselves while you are asleep. Let your kitchen, your negro houses, your yards, poultry houses and all other buildings and enclosures about your dwelling, be vigilantly looked after and kept constantly cleansed of all refuse accumulations which will be daily collecting there, and the whole carefully removed and deposited with the compost heap, established at safe and convenient distance, or distributed through the cattle yards. Your health and comfort and that of all around you require this, and your wealth will grow from it. Let all these materials—after passing through the processes I have indicated and having had occasionally, while in process of accumulation, a small quantity of gypsum sprinkled over them, and a little common salt also, if conveniently to be had—be applied in sufficient quantity in spring or fall to the field you had limed six months or a year before, and my life upon it, you will never look upon that field again without feelings of mingled pride and joy; and when your first crop thereafter shall have been harvested and sent to market, there will be a glittering return that will diffuse a general joy through your household, and make you feel disposed to stand up and say to your own soul "I am indeed a man." I should not have omitted, in speaking of the accumulations about your dwellings, to have mentioned your wood ashes. These I consider, leached or unleached, among the most valuable of all manures. They cannot be purchased in sufficient quantities, and besides they are too much adulterated by those that deal in them to make them a safe article to buy. But those made upon your own hearths are of great value and should be most carefully husbanded. They usually sell bad, as those in market most commonly are for 12 to 15 cents per bushel. If good, they are well worth 25 cents on the farm. At this rate every fire-place on your farm will make at least 5 cents worth per day in winter. It is easy to see from this, that there are many dollars thrown away by most of us for the want of due care and economy in this little particular. And though these ashes may not shine with the brightness of the dollar, where carelessly thrown in some gully or road or other by-place to be got out of the way, a skillful farmer can soon make a few bushels of them shed the lustre of the half-eagle through the interstices of his silken purse. They should be distributed as equally as possible at short intervals through the cattle yards or compost heaps, to impart some of their fine properties to the whole mass. There is one other source of manure on your farms, which, though it may appear trifling, I still deem of sufficient importance to mention here. It is the offal from your slaughtered animals, the hair and other parts which are usually thrown away, the carcases too of such animals as die occasionally from accident, disease or old age; the bones also that are thrown from your kitchens or lie bleaching in your fields.—Are you aware that all these things are as valuable, and a little more so, than the best Peruvian guano, which is brought to you the distance of fifteen thousand miles, and which many of you now purchase at the rate of fifty-five to sixty-five dollars per ton? If you were to reflect upon this, surely, as sensible people, you would save and turn them to account in your compost heaps or in some other mode.

From what I have said, it will be perceived, that I regard lime and the putrescent manures to be raised and collected on the farm, as the two great levers in the improvement of our lands. These, with regular rotations of grass and grain crops, will, I know, accomplish the object with certainty and in a reasonable time; and without these I have no faith in the success or adaptation to our lands of any system of improvement I have ever heard or read of. There are many other manures and many improved modes of cultivation, which are of great value and greatly expedite and facilitate the operations and progress of the thrifty farmer. But they are auxiliaries only—most important aids, if you please,—but still, in my judgment, secondary always to the two great substrata I have mentioned. It must not be inferred that I object to, or would discourage the use of what I have here termed auxiliary, or, as some say, bought manures.—Far from it. I most warmly commend and earnestly recommend the application to his lands, in the shape of manures of some kind, of every spare dollar of capital the farmer can command. These are investments, which, judiciously made, are certain to pay much better interest than banks or money stocks of any kind, and besides are free from the dangers of over-trading and bankruptcies. But I wish to urge upon you the importance of beginning at the right end, and first rearing and heaping up a safe foundation before you erect the superstructure; of regarding all other manures as aids of, and co-operators with lime and the putrescent materials of the farm, and not as superceding their use or at all diminishing their importance. It may not be amiss for me here to state the striking results produced on a small farm of my own, by the use of lime and putrescent manures, aided some little by gypsum and clover. This farm is the one on which I now reside—is situated on the table lands of our county, and is of the same general character as those lands, which constitute perhaps half of the entire surface of the county. When it came into my hands it had been worn out and abandoned as waste and good for nothing. The fields which had formerly been cleared and cultivated, were covered with a very sparse and stinted growth of cedar, the intervals between which were either naked or having on them a light growth of poverty grass.—It was worth in the market then, I suppose, about three dollars per acre; certainly it did not pay, and could not then pay by cultiva-