



The Centre Democrat. BELLEFONTE, PA

AGRICULTURAT. NEWS, FACTS AND SUGGESTIONS.

ST OF THE NATIONAL WELFARE IS THE INTELLI-GENCE AND PROSPERITY OF THE FARMER.

ALL accounts, thus far, from those who have constructed silos and are

To such of our readers as are disposed to criticise the make-up of our agricultural page this week, because of the very large proportion of space devoted to the subject of manures, heaps. we can only plead in extenuation our high appreciation of the vital importance of it to every American farmer. When our farmers learn to make, save and use barnyard manure to the best advantage, they will be far on the highway to a permanent prosperthe series, which treats of composts, is one of a series called "Farming for Boys and Girls," written for the feed the world. Rural New Yorker, by Henry Stewart; but it is as good reading for

In his fourth preliminary report, he ploughs in. Commissioner of Agriculture Le Duc gives additional evidence of his untiring efforts to elevate the department to a position of usefulness com- used will save this leak of the farm, mensurate with the importance of the provided that care is used in protectinterests it represents. He makes a point by showing that of the total year ending June 30, 1880, ninety per cent. were agricultural matter, and in pondering the fact must stand worth from \$10 to \$25 per animal. amazed that the agricultural interests of the country have not received more attention in State and National legis- spread in winter is dissolved by snow lation." The report details the ex- and rain and made available for the periments in sugar production and first crop, and there will not be as tea culture made during the past year, and speaks with unbounded confi- diately before ploughing, but the dence of the early success of both. In heavy growth of grass on the part regard to sugar the Commissioner expresses his belief that "the crop of 1884 will terminate our dependence on foreign nations for this article of best results? One says haul it out prime necessity ;" and of tea he says, and spread to upon turber; a third another says plough it under; a third "American tea, grown and manufac- says plough the ground and then tured on our own soil by ourselves, spread the manure and harrow it in is destined, at no late day, to supply a fourth thinks some other method the demand of our own people, and to the different methods we shall find enter the world's markets in favorable that none of the above are either competition with that product in any entirely right or altogether wrong. other country." He makes an earnest appeal for a series of experimental farms, the central one to be located in the manure made from one hunat or near Washington, for which he dred dollars worth of grain, linseed suggests the unused portion of the meal, cotton seed meal, and wheat Arlington estate, and the others in dred dollars were paid direct for widely separated parts of the United States. The Commissioner objects to this the hundred dollars paid out for the assistance of Congressmen in the distribution of seeds, claiming that they can be more surely placed "where nothing. they will do the most good," by the department itself, and asks for a large increase of the working force of the of the salaries paid to those now em-

MANURE.

HOW TO MAKE, HOW TO SAVE AND HOW TO APPLY "THE FARMERS' BEST CROP. Hints and suggestions gathered, as the matter of which they treat should be, from all available sources :

German papers mention a newly invented manure-spreading machine, of which "great numbers" are being sold in that country.

Applying manure to the soil is like feeding the ensilage, are favorable to the system. The system of the sy

> If there is one thing for which I will draw the last dollar of my bank deposit more cheerfully than for another, it is to increase my manure

> I have left manure in piles on sidehills through the winter, and the growth of grass in the spring did not show any benefit from the wash of the manure over three or four feet below the piles.

When men learn more and practice ity. The last and longest article of better; when learning and labor, brain and brawn go hand in hand; when the better application of manure is combined with better tillage, we can

> After all, the farmer must depend very largely, if not principally, upon the barnyard for the bulk of his fertilizer; I mean exclusively of the clover and other green crops which

The annual loss to farms is iming the product from washing.

Dead animals on the farm should exports of the country for the fiscal be transformed into a fertilizer for the soil. Cover the carcasses up with sod thoroughly permeated with fresh lime, and let remain a year, when you adds that "every man of intelligence will have an excellent crop grower,

> Of course, "we cannot eat our cake and keep it too." Manure drawn and much of it left in the soil for future crops as if it had been spread immemanured in winter will go far toward making up the deficiency.

How shall we use it to realize the

More pounds of nitrogen, phosphoric acid and potash can be applied commercial fertilizers. And besides food may be received back in the growth or fattening of the animals, and the manure really costs little or

One very serious error in the use of manures grows out of the idea that is very prevalent, that if we only dedepartment, and for a larger increase liver it upon the land the crops are sure to get the full benefit of it. This ployed. We conclude our necessarily is a serious mistake. An a liquid or must be reduced either to a liquid or incomplete review of the report by gaseous form before plants can quoting from it a couple of paragraphs on the subject of foreign markets, stantly kept in mind, it will be much easier to understand why fine and well-composted manure is better than coarse; why it is sometimes better to use it in one way and sometimes in

shows the importance of the question by stating the fact that, although carbon, as the chief constituent plants, is the most obvious measure of plant-yield, yet the amount of carbon depends on the supply nitrogen in an available form within the reach of the plants. The air contains "oceans" of it "free," but plants don't take it in the raw. It is ombined in ammonia and in nitrates, and in these forms it is a great stimulus to vegetation, whether supplied through the leaves from the air, in which a very little ammonia is found, or through the roots from the nitric or ammoniacal salts in the soil, which are evidently the chief dependence. It has been ascertained at Rothamsted that clover acquires, in some way, such a supply of nitrogen as to carry off more than four times as much as a preceding crop of barley, and yet leave so much in the soil (in its roots?) available for a following crop of barley as to make its proportion nearly double that of the crop preceding the clover. Of the manurial elements, potash is found most serviceable in promoting an increase

in the yield of nitrogen.

No farmer ever yet had enough of manure. It is the trouble of every careful farmer to supply this want which never can be satisfied in the usual way. He gathers from swamps, from woods, from roadsides, and every other source that he can reach, and the muck, the leaves and the scrapings which he thus collects, he works up into composts in such a way as to cause them to decay and become fit for plant food. The term

compost is derived from a Latin mense from neglect to save the liquid word *compositum* which means put voidings of stock. Absorbents freely together and expresses precisely the action of the farmer in this business of making manure of substances which alone would be of no value to him.

The effect of this action depends upon a natural law the result of which is the conversion of organic substances into their elements. This process is what we know of decay or decomposition. The meaning of the w decomposition is, a taking apart of a compound substance. It is always accompanied by heat which is always produced by chemical action, and decay or decomposition is the effect of chemical action. Decomposition is in fact a slow process of burning as much so as if fire were used to produce the result. The final effect is the same in both cases, the mineral matter or ash only being left.

When the farmer forms a compost he gathers these substances and makes them into a heap, and to hasten the end which he has in view he adds to it, evenly mixed through the heap, a certain quantity of fresh manure. This begins to heat very soon, and just as the yeast mixed with the bread sponge of the baker, starts the fermentation through the whole mass, so the small quantity of manure starts the heat and fermentation through the whole of the heap of the compost. But to produce the best effect there must be a certain supply of moisture, for unless there is sufficient water in the mass the process of decay will not go on. Dry matter may be preserved, and will not decay, for many years; and until it is moistened with water it will suffer no perceptible change. The compost heap must, therefore, be made of such a shape that it will hold as much moisture as possible.

It is usually put up about four feet high and as long and broad as may be convenient, with the top made flat and hollow to collect and hold the rain which falls upon it. Lime is often added to compost heaps and is very useful, because it helps to decompose the vegetable matter in them and makes the compost fit for use sooner than it would otherwise be.

The usual time for making compost heaps is in the Fall, so there may ample time during the Winter for it to be made ready for the Spring work. By carefully gathering and saving all the materials mentioned, and working them up into composts, the quantity of manure may easily be doubled and another; why it is better to have it entirely distributed over or in the One load of well-made compost may ground than to have it in heaps of be as useful as the same quantity of of from a half to a whole forkfall in a common manure, and as it is always in a well-broken and fine condition, it is the most valuable fertilizer that Fifteen years ago I purchased and can be procured for spreading upon drilled in 500 pounds of superphos- grass lands. Composts may be greatly enriched by the addition of the manure from the poultry house, by the wastes from izer was used, and I have continued the house, and by ground or burned anything without it, not even my procured for the basis of it than buckwheat or turnip patch. But I common soil. The soil is an excelwhich by themselves would be too Expected. A single good crop in Enrope would undoubtedly depress our markets so as to greatly lessen the margin of profits to the producer, thus endangering the present era of prosperity, and bringing instead wide-spread disaster, not only to the farm-ers, but to the manufacturers, the merchants, the public carriers, and all other classes of people. every neighborhood where they have been made. The source of the nitrogen found in plants remains still an unsettled question. In an address before the British Association by Dr. Gilbert, who has so long been associated with and observations at Rothamsted, he

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on the subject of foreign markets, which it may be well to take into consideration in planning our crops for the coming year :

Bad crops in Great Britain and other European states and the disturbed condition of the Russian people, with a comparative failure their wheat crop, have enabled us to place. obtain fair market prices for the immense amount of surplus food we have harvested for the past few years, and have brought returns for our agricultural labor that we should not expect or hope will continue uninter-ruptedly. That a change may come at any day is a matter for serious to use it ever since with the best bones. In this way very valuable consideration not only for our statesmen, but for all classes and conditions I with it that I do not sow or plant fruit trees, if nothing else can be of people.

Our fertile virgin soil, its cheap cultivation, its accessibility, and the unprecedented rapidity and cheapness with which farm produce of all kinds may be moved, all go to stimulate production in the highest degree. That the demand for our products will keep pace with the rapid increase of production, that it will even equal the demand for the past three years. should not be hoped for, much less expected. A single good crop in Enrope would undoubtedly depress

phate with wheat. The yield on the part phosphated was more than double that on the part where no fertil-

buckwheat or turnip patch. But I would not advise others to experi- lent absorbing material for the richer ment with it on a large scale at first. qualities of the other substances, Try it on a few rods of corn and potatoes by scattering about a table-spoonful to the hill, covering with a compost heap the farmer first earth before dropping the seed. And spreads a quantity of the coarse in the fall drill in part of your wheat materials, such as swamp muck, with it, and the rest without, and leaves and sods, on the ground, of an note the result. Experiments of this even thickness, but more than a foot kind have been of great advantage in every neighborhood where they have fresh manure, well broken up with