

manure to the land. The animals do not take out more than from five to ten per cent. of the most valuable elements of plant food from the clover. And so my plan, while it produces as much and no more grain to sell, adds greatly to the fertility of the land, and gives an increased production of beef, butter, mutton, wool, cheese and pork."

A Very Good Compost.

A very good fertilizing compound is manufactured by the following substances according to the directions given. The mixture has been called "Lamb's great Fertilizer," as it is stated that it originated with him. This is doubtful, but it is a judicious and sensible combination, nevertheless, easy to prepare, and cheap. It will prove serviceable for corn, wheat, and the other cereal grains, and also for grapes. This amount will do well, applied to one or two acres, and will cost not far from \$16:

1. Dry peat, twenty bushels;
2. Unleached ashes, three bushels;
3. Fine bone dust, three bushels;
4. Calcined plaster, three bushels;
5. Nitrate of soda, forty pounds;
6. Sulph. ammonia, thirty-three pounds;
7. Sulphate of soda, forty pounds.

Mix Nos. 1, 2, and 3, together; then mix Nos. 5, 6, and 7, in five buckets of water. When dissolved, add the liquid to the 1st, 2d, and 3d articles. When mixed, add 4th article. — *Journal of Chemistry.*

For each Field its Right Crop:

Many farmers in the selection of the crops they raise, are entirely indifferent as to the character of the soil on which they are to be grown. This is a great mistake, as every field of a farm should be turned to that use for which its soil best adapts it. Of course the experience gained by successive years of practical trial is the best monitor, but this is gained too often at the expense of poor crops and unnecessary discouragement. But a safe guide to the special capabilities of the soil can always be found in the indigenous trees and plants which are found upon it. Where nature is the planter we may rest assured that the seeds are placed in the soil most appropriate and congenial for them. A soil in which the common beech tree flourishes is always sure to retain considerable moisture, and as a general thing is a heavy, stiff clay, the pines and chestnut on the contrary are found flourishing in a light sandy soil. Close observation so strongly confirms this view, that it may be accepted as a law of nature; and from this we are enabled to determine distinctions in the soil, although their general appearance of color, etc., are apparently identical. The smallest indigenous plant is equally an exponent of the character of the soil, as the giant oak.

It may be laid down as a general rule, that a rich and varied natural vegetation, trees as well as plants, is indicative of a soil of good capacity; one which not only contains all the elements necessary for the growth of most cultivated plants, but free from any noxious substances, and in that physical condition to allow of its profitable cultivation, while on the other hand, a scanty vegetation, embracing few species only, indicate the absence of some important element, or some physical imperfection.

Forest trees and indigenous plants may be regarded as exponents of the physical condition of the soil, rather than of its chemical composition. A soil on which oak, hickory and tulip, or yellow poplar are the principal trees of the native forest, is most suitable for the growth of wheat. Maple and beech producing soil is better adapted to spring or summer crops, such as barley, corn and potatoes. The adaptation of "winto oak soil" to winter wheat, and the beech and maple to spring crops, shows that it is the physical condition that determines the fitness of the soils for cultivated crops; for we have only to bear in mind that winter wheat, barley, oats and corn are identical in chemical composition. In both varieties of soil the chemical constituents which are necessary to the growth of beech, maple, oak, poplar and hickory, wheat, barley, corn and potatoes are present, but the physical condition, or mechanical texture of the two is different.

Making Maple Sugar.

The first operation in this work is tapping the trees. This may be done by using a half-inch or three-fourths inch augur bit, boring a hole from one to two inches deep, according to the size of the tree, so inclined as to allow the sap to run out readily. Into the hole a spout is driven, having a small hole through it to allow the sap to run off into the bucket. The spout should be nicely fitted to fill the hole, but should be driven only through the bark of the tree, as it will prevent the flow of sap if driven into the wood within. Soft wood must be used as it is safer against leakage. Directly below this a strong nail is driven, on which the pail or bucket may be hung, or the pail may be set on the ground, though there is more danger of wastage.

As soon as possible after the sap runs it should be evaporated, which is done in kettles or pans prepared for the purpose; and here it should be remembered that the greatest care is necessary to have all the utensils used in the operation perfectly clean and free from taint, without which it is impossible to make good sugar, or an article that possesses the delicious flavor of the maple. Tin pails are best for catching the sap, as they are more easily kept sweet. If wooden buckets are used, they should be well cleaned with scalding water before using. Pans are best for evaporating, and where the business is extensive enough to pay the expense, it may be best to use the patent evaporator; but for a small business a cheap pan, which any one having a little mechanical skill can construct, will answer a very good purpose. It is made of very heavy sheet-iron, turned up six inches at each end, with wooden sides the same height. The iron is closely nailed to the wood, with a strip of cotton cloth dipped in lead paint between, to prevent leaking. It should be seven feet long and two and a half feet wide. An arch is built one and a half feet high, and six inches less in width than pan and level on top, over which the pan is set, the wooden sides resting on the wall are not exposed to the fire. Two handles on each side are necessary, through which poles some six feet long are pushed, to set the pan off the fire, when the syrup is ready to dip. In this fixture there is no danger of burning the syrup to the sides of the pan as when it is set into an arch. A sap holder should be set by the side with faucet feeding directly into the pan while evaporating. The syrup should be strained while warm, through a flannel cloth, and set away to settle at least twelve hours, when it is ready to convert into sugar.

This process requires care and attention, to avoid scorching, which destroys the flavor of the sugar. The most convenient thing for this that I have seen, to be used in a small business, is a pan made of sheet iron, some two feet square and six inches high, to set on the top of a common cooking stove, or a kettle may be used, though with more liability of scorching the sugar. Various articles are used for clarifying to render it white and pure. The most common, and I think the best, are eggs and sweet milk, beat well together and stirred into the syrup when cool; as it warms, it coagulates and rises to the surface, bringing all impurities with it to be skimmed off, which must be nicely done before boiling. Three eggs to one pint of milk is sufficient for thirty pounds of sugar. A moderate and uniform heat should be kept up till the syrup is reduced to sugar, by which time the experienced hand can tell by its boiling, otherwise by testing it. When done, it should be allowed to cool in the pan until crystallization begins to thicken, when it is ready to put into the caking pans. To retain the beautiful flavor and excellence of maple sugar, the strictest care and neatness must be preserved in its manufacture. The article we often meet in the market, dark colored, and mixed with cane sugar, possesses none of the aromatic flavor and beauty of the pure maple. There is no sweet more delicious to the taste, or more highly estimated, than this, in its purity, and the farmer who has preserved his maple grove, with proper facilities, will find a few days' attention to this business as remunerative as other branches of farm labor. — *Rural Home.*

Lime on Land.

R. Crothers, West Chariton, N. Y., writes to the N. Y. Farmers' Club his experience with lime: In the west part of Saratoga County, for the last half century, lime for farming has been quite generally used. The soil of our section is loam, interspersed with coarse sand, and sometimes small portions of clay. We are what might be called small farmers, the amount of land owned by each cultivator varying from 50 to 200 acres, and would average about 100 acres to each farmer; and we generally pursue what is called a mixed husbandry. We have valuable quarries of blue limestone, and several lime-kilns, which hold from 400 to 600 bushels of lime.

I came into possession of the farm that I now occupy in the spring of 1831. It had been rented to various individuals for eighteen years; the soil impoverished by continual ploughing could not raise 500 pounds of hay to the acre. The second year I put on 250 bushels of lime upon two and a-half acres, and upon the other part of the field of two and a-half acres, forty loads of barn-yard manure. On the 15th of September, after the ground was prepared, the quick-lime was scattered upon the top, and also the manure was spread upon the other part of the field, and upon that part of the lot that had been limed the crop was one-fourth greater than upon that part that had been manured. The next year sowed with barley and seeded. On that part of the field limed, the straw grew strong and bright, and in no way injured by worms; the grain was heavy and bright, and one sixth more bushels than upon the other part of the field; and for a number of years the difference was decidedly in favor of the limed part. Soon after I built a lime-kiln upon the farm, and every year up to 1872, have used from two to four hundred bushels of lime.

I have used it in various ways, but I think the correct way is to draw from the kiln in the shell, throw in a pile in the field, and let it remain until it is all slacked, then, after the ground is plowed and harrowed, load into a waggon, and with a shovel scatter as evenly as possible, at the rate of fifty to seventy-five bushels of stone lime to the acre.

While many of my neighbors are complaining of the destruction done by worms I have not lost one bushel of corn, or any other kind of grain, in twenty years by worms. On land that has been well limed the crops will not be disturbed by such troublesome customers as grubs or wire-worms. We consider it very valuable as entering into the straw, keeping it clean, bright color and also heavier grain.

From the closest observations that I have been able to make in the use of lime for forty years, I think the beneficial effects have been seen upon land that has had fifty bushels to the acre from sixteen to eighteen years. It enlivens, changes, and warms up cold land, and is peculiarly well calculated to produce a large crop of clover—and after that crop I never fail in getting a good crop of corn.

I have sold a good article of stone lime at the rate of \$10 per 100 bushels at the kiln; but now, with the increased amount of wages to laborers, it cannot be afforded (burned with wood) at less than \$18 per 100 bushels. But at that rate, taking into account the various beneficial effects, and the great durability of lime in the soil it cannot be doubted but that it is far cheaper than any artificial manures that can be obtained in the market. The most economical way is to take muck and make a compost. Take two parts of good vegetable muck with one part of unslacked lime and throw in a pile, and soon the lime will warm up the muck; then draw and spread just before the last harrowing. The same land that I formerly got only about 600 to 1,000 pounds of hay to the acre from, I now can, on an average, get two tons. I think the increase is owing to the use of lime. — *Mich. Farmer.*

TOP-DRESSING MEADOWS.—In my experience the best results can be obtained by applying the manure on the surface of the meadow as soon as possible after the grass has been cut. If it is cloudy or rainy weather at the time, or soon afterwards, so much the better, as the liquid from the manure will then be carried into the soil, to be taken up by the roots of the grass at the time when they need the stimulus the most, as they receive a severe shock by being laid bare to the action of the sun's rays at a season of the year when the weather is usually the driest. I have noticed that if grass is not cut close to the ground, it will start much sooner. If the manure is applied at the time stated, in a short time it will be covered by a heavy aftermath, furnishing a protection from the heat of autumn, as well as from the frosts of fall and spring. — *W. C. Sullivan County, N. Y.*