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Thoughts for Farmers for April.

By COL. J. B. KILLEBREW, in Southern Farm Magazine.

The heart of Mother Earth now stirs apace
With fresh awakening from winter's sleep;
Soft melody of love and gentle zephyrs.
Sweep through budding woods and o'er meadows creep.

April is the month of sunshine and shower. It is the month of buds and blossoms and of creeping beauty over the landscape and bursting life in the forest. Venture enlivens the surface of the earth; birds mate and chatter in the exuberance of enjoyment while they build their nests and prepare for parental delights. Every animate and inanimate thing seems to rejoice and to take on new life or fresh coloring in April.

To the farmer April is a very busy month. The rich earth feels the mellowing influences of the plow and harrow, and warms for the reception and fructification of the seeds to be committed to its bosom. In all portions of the South corn should be planted—indeed, in the Gulf States it should be up and ready for the initial cultivation. Fertilizers are now frequently applied to the soil for this crop, especially upon lands that have been run down. A good fertilizer is one containing phosporic acid, 6 to 8 per cent.; potash, 5 to 6 per cent., and nitrogen, 2 per cent. A crop of fifty bushels of corn abstracts from the soil sixty-seven pounds of nitrogen, eighty pounds of potash and thirty-one pounds of phosphoric acid. The application of 500 pounds of a fertilizer of the character indicated would greatly increase the yield, and should the season be favorable, will be found to be highly profitable. Fertilizers may be applied in the drill or hill where the corn is to be planted. The best land, however, upon which to plant corn in the South is a clover or grass fallow that has been top-dressed the previous year with stable manure. An application of the latter just before planting is often found to be injurious, as it induces the drying up of the corn should the season be hot and dry. A crop of cowpeas or soy beans or crimson clover the previous year is almost as good as an antecedent crop as red clover.

CORN.

Of all the crops grown in the United States corn is the most important as an article of food both for man and beast. To the poorer classes in the South Indian corn is the staff of life. A peck of meal and from four to six pounds of hog meat per week is the standard allowance throughout the South to the negro workers. In its importance to the human family it rivals or exceeds rice. In its value to internal commerce it stands first, and in its money value it exceeds wheat more than two times, hay and forage twice, cotton two and one-half times, and forest products eight times. Its value reaches $828,000,000, which is nearly one-fifth of the value of all farm products in the United States, including live-stock. The South raised in 1902 702,487,609 bushels of this great staple, which is about one-fith of all the corn grown in the United States, but its value is considerably greater than one-fifth, and approximates $277,000,000. There are numerous varieties of corn, some of them well known in all parts of the country. The flint corn of the Atlantic coast States, the dent corn of the West and South and the sugar corn that is grown for canning purposes are best known. In the northern part of the Southern Atlantic States there are many varieties having a local name that seem to have become adapted to the soil and climate. One variety known as Willis corn has a considerable local reputation in the tobacco-growing counties of Middle Tennessee and Southern Kentucky. This variety is distinguished for its great weight of grain, smallness of cob and freedom from rot in the field. It yields well on thin soils and ripens early. It will weigh fifty-eight pounds to the bushel, and the weight of grain to the cob is nearly 85 per cent., while with the larger varieties it is about 80 per cent. The Gourd seed varieties, with long grain, are favorites in the South. The selection of seed corn is at once a most important and a most tedious operation. The ears most perfect in grain, shape and solidity for compactness only should be selected. Depth of grain and smallness of cob, as well as length and weight of ear and tightness of grain on the cob, should all be considered. As far as possible there should be a uniformity in the size and shape of the grain. Those at the smaller end of the ear should be discarded. To prevent crows and blackbirds from pulling up the young corn the seed should be tarred and afterwards rolled in ashes or land plaster. A pint of coal tar will suffice about two bushels of seed corn. The grain should be placed on a floor, the tar poured over it, and then the corn should be stirred until every grain receives a thin coating. Afterwards ashes or land plaster may be poured over the bulk of corn and stirred in. The corn may then be handled without sticking to the hands. This treatment will also protect the young plants against the ravages of raccoons and squirrels.

Experiments carefully made demonstrate the fact that good seed of any well-established variety of corn will produce on soils of equal fertility 30 per cent. more corn than seed from a mixed or inferior variety. As to whether corn should be planted in drills or in hills depends a good deal upon the character of the soil and its freedom from noxious weeds or grasses. When the soil is fresh and friable, or when corn is planted after a clover ley, it is better to drill it, but where the land has become infested with a foul growth the planting in hills is preferable, because in that case the plows may run closer to the growing corn in both ways, and no hoe work will be required.

The center of corn production is twenty-three miles east, northeast of Quincy, Ill. In 1850 it was twenty-seven miles east of Louisville, Ky.

The cultivation of corn is a very simple matter. If the land has been well prepared before planting, very little need be done, except to keep the surface of the ground loose. No deep culture is required—in fact, deep culture is hurtful to the growing crop, especially after the corn has thrown out its lateral roots. Level culture is best. The best rotation for corn is clover, corn, oats or grass. Wheat rarely yields well after corn. In the States where clover does not succeed well cowpeas or soja beans may be substituted for it. It has often been noticed that the corn grown in the Northern States does not make such excellent corn bread as that made of Southern-grown corn. This is due to the fact that Southern-grown corn has more saccharine matter in its composition. Dr. Bellows many years ago made analyses of typical varieties grown in the North and those grown in the South for the sake of comparison. His conclusion was that though the corn-meal made of the Northern-grown corn is not so agreeable to the human taste, yet it has greater fattening properties, is softer and better suited for the feeding of stock. Dr. Bellows says: "Indian corn, especially Northern corn, is excellent food for cold weather. Nature, however, provides that the corn of Southern climates has less of fat and heat-producing elements, but contains a full share of muscle-making material, and is well adapted to laboring men. It also contains a large share of the life-giving principles, and is well adapted to sedentary and literary employments."

One pound of Southern-grown corn contains 3 ounces and 185 grains more of nitrogenous substances in a pound than Northern corn, the proportion being 7 ounces and 212 grains in a pound for Southern corn, as against 4 ounces and 27 grains for Northern corn. It also contains more of sugar to the pound, the proportion being 27 grains for Northern corn and 200 grains for Southern corn.

RICE.

April is the best time for sowing rice. It may be sown from the middle of March to the middle of May, but best results are obtained by sowing about the 20th of April. The seed is drilled from two and one-half to three bushels per acre on land well prepared by the harrow and crusher after deep plowing in the early winter or spring. Different fields should be sown at short intervals, o that the rice will not all ripen at the same time. Water is let in on the fields and increased as the plant grows. It is drawn off at intervals, and the fields cleared of any noxious growth, such as aquatic grasses or other plants. The crop ripens about the first of September. The water is drawn off a short time before the harvest begins. The immense development of this valuable cereal in Southwestern Louisiana and Southeastern Texas is astonishing. It is said that more than 40,000 Western and Northern people have within a few years settled in the rice-growing districts of these two States. Lands that a decade ago could not be sold for $1 per acre are now bringing $40. There is a large amount of money being invested in canals for the purpose of irrigating the rice fields. Wells are also used for supplying water. Home capital is not entering this new field of development to the same extent as capital from other States. One reason of this is that only large corporations have been engaged in the industry, but it is believed that the small landholders can raise a better grade of rice, take care of it better and exercise a greater economy than can be done on the large rice plantations The small landholder, according to W. C. Moore, the rice pioneer in Texas, is much more careful of his property, more careful in handling his rice crop, more interested in the success of the canals and their continuance than the renters.

TOBACCO.

Tobacco lands should be rebroken during this month, and whatever well-rotted manure is obtainable should be hauled out and scattered over the land before rebreaking it. Plant beds should also be looked after to see that the canvas is not broken or whipped off by the winds. It is a good idea to remove the canvas entirely before the last of the month, so that the plants may be hardened before being tansplanted to the open fields in May

MELONS.

The land for melons should be prepared this month. For large commercial watermelon fields the rows are laid off about ten feet apart each way and low

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Why Clover Fails.

By W F MASSEY.

From all parts of the country comes the complaint "we cannot grow clover as we formerly did." It becomes, then, of great importance to look into the reasons for the failure. The failure may be the result of various causes. On some fertile soils where clover has been grown for years in a short rotation of crops the soil gradually accumulates humus to such an extent that it gets into an acid condition. Now the success of clover is largely due to the parasitic organisms that live in the nodules on its roots, and through which the plants are enabled to collect nitrogen from the air. When the soil gets into an acid condition through the accumulation of humic acids these micro-organisms cannot thrive, for they require that the soil be in a feebly alkaline condition. Then when the nitrogen collection microbes fail to grow the clover fails to thrive, though the soil may be rich in plant food. There are many plants that can abide an acid soil, but clover is not one of ....se.

It was found in New England that on some of these soils where clover failed a sweetening of the soil through an application of freshly-slaked lime would restore the conditions needed by the clover and its parasite, and the clover throve. But there are other soils in which the so-called "clover sickness" is due simply to the loss of plant food from the soil that the clover needs. There is no plant grown that responds more quickly on most clay soils to an application of lime than clover, but where this is the case it is largely due, as we have said, to the sweettening of the organic matter in the soil. But lime never made poor soil rich. It may bring into play in soils where it is present in an unavailable form the potash that the clover needs, but there are thousands of acres all over the country where the mineral matters are absolutely deficient, and no plant will do its best till they are supplied.

There are more failures of clover from a lack of humus in the soil than there is from an excess of this moisture-retaining material. We once took charge of a place on which there was a field of fertile limestone soil. We were told that it was useless to sow clover on that field, as it was clover-sick. We gave it a heavy dressing of lime, and sowed clover on the wheat that followed, and made as fine clover as we ever saw. This soil was simply acid, though underlaid by limestone rocks. Now many a farmer would have at once jumped to the conclusion that lime was all the manure needed on that land, and that all that need be done to get large crops would be to go on applying lime. This impression got abroad among the farmers in the fertile valleys of Pennsylvania many years ago, and they applied lime year after year. Now they have found their error, and have gone to the other extreme, and seldom use as much lime as they should, all because they thought that lime as a manure had supplied all the needs of the plant, while it simply enabled them to rob the soil more effectually of its store of phosphoric acid and potash. They are now using fertilizers to make crops, and putting on the soil in this form what they have for years been robbing it of. The present necessity for complete fertilizers could have been largely avoided had they realized what they were doing. Clover failed by reason of the taking away of the plant food it especially needed, and the sensible way to restore the conditions in which they found lime profitable would be to supply the plant food that the clover especially needs, and through its aid get back to the soil the humus they had robbed it of through an injudicious use of lime. Clover, as we have often said, will get you the nitrogen free, but it cannot get from the air the phosphoric acid that has been taken off in the grain crops and in the bones of every animal raised on the land. It would not restore the potash that the lime helped you to get out of the land faster than in the ordinary course it would have been available. Where liming has brought about this state of affairs, where humus has been used up from the soil and drought affects it more sensibly, and clover is starving for the food it needs, the only resource is to return by artificial means the plant food that has been taken away. The grain crops are smaller by reason of this lack, the clover fails or make a feeble growth, and the manure pile is less through the lack of the capacity of the farm for feeding stock.

The true way to get back to the original productive conditions is not by buying a complete fertilizer to dress the wheat fields in a niggardly way, and then take it all off in the grain crop, but the true and business-like way is to feed the clover with what it needs and then let the clover do the rest. It will do it most effectually, too. It has long been the opinion of scientific workers that phosphoric acid must be in an available form when placed in the soil; hence the use of the dissolved rock, since the larger part of its phosphoric acid is at once available. When this is applied in unlimited quantities to a wheat crop is undoubtedly helps the wheat, and is used up in the helping. Clover is usually sown on wheat in the spring in the clover-growing sections of the country, and after the wheat is cut it feels the lack of what the wheat has used up, and sometimes fails as soon as harvest is over and it is exposed to the sun in a weakened condition. The part of wisdom, then, would be to put the phosphoric acid there in a more liberal manner, and part of it, at least, in the insoluble form of pulverized phosphatic rock or fleats, which will gradually come into use after the wheat is made. Then not only the clover, but the wheat, needs potash to enable it to do its best, and in such soils as I have been describing the potash, too, has been largely drawn upon by the use of lime. In some parts of Maryland and Delaware the farmers have come to the conclusion that acid phosphate alone is needed on their soils. Experiments at the Delaware station showed that there would be a large gain by adding some potash to the acid phosphate. It is all well enough to depend on the clover when it is grown successfully for the supply of nitrogen, but in order that it may do this it must have an abundance of the mineral plant food it needs. Therefore, while fair crops may be made on certain good wheat soils with an application of acid phosphate alone, the wheat, and especially the clover, would be largely helped by the addition of potash to the fertilizer. One never need be afraid of loss with these materials, as he may well be in regard to nitrogen, for the soil will hold on to them till some plants call for them. A couple of hundred pounds of acid phosphate may make a better wheat crop,

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CULTIVATION OF WATERMELONS.

(By Harvie Jordan.)

It is now rather late in most sections ordinarily to discuss planting watermelons, but the weather so far has been so different from usual, early spring weather and farmers are generally so far behind with their work, that doubtless hundreds have not yet planted, and a little information on the subject might be of some help in planting the crop. I shall not undertake to discuss the best method of planting watermelons for market, but only to reach that class of farmers who plan what is termed a "patch" for family and home use. The large growers in the Southern sections of the country have no doubt already planted, or at least have prepared and fertilized their lands preparatory for the crop. Every farmer makes the attempt annually to grow watermelons for family use. In many instances fine melons are grown, while in many others success is not always met with. Failure to produce good melons may result from a variety of causes. Generally the trouble is, or may be attributed to, careless or hasty preparation of the land, improper fertilization and a failure to use good seed of a pure type. The best melons raised in the United States are those produced in Georgia. This seems to be the verdict of all sections of the country where watermelons are shipped for the open market. Melons which are planted for shipping purposes are not nearly so good as the tenderer melons which are usually grown for family use. If the Northern and Eastern markets could get the best type of melons raised in the South, cut fresh from the vine and full ripe, the already famed reputation of our melons would be largely increased. Some day when transportation companies can furnish refrigerator cars for this crop the tenderest varieties may be shipped in place of the hard rind kinds pulled before maturity, such as the Kolb Gem. Our best melons cannot now be shipped because the rind is too thin to stand the rough treatment of the ordinary freight box, and the present method of shipment in bulk.

SOIL AND LOCATION.

For a small patch, there is always some desirable spot on the farm which can be selected that meets the soil requirements of the crops. A light, gray, well drained soil is the best which can be selected for this purpose, having a warm, southern exposure. The land upon which good sized melons grow must be well drained and not boggy. My best experience in raising watermelons has been in the selection of a piece of land on the underside of a field where a considerable portion of top soil had accumulated, and upon which had grown a heavy thicket of blackberry bushes. This was cleared and planted in "Gray Jacket" melons, and the finest crop ever raised by the writer was grown that year. However, the watermelon will accommodate itself to almost any kind of soil if the proper plant foods are present to meet the demands of the crop. In addition to this the land must be placed in proper condition and prompt cultivation had.

The soil should be thoroughly plowed, though not necessarily deep, and harrowed well. To make good growth the plants must be able to easily and rapidly penetrate the soil in search of plant food and moisture. The richer the land, the wider apart the rows can be placed. On very rich land 12 feet each way is not too much, but ordinarily 10 feet each way appears to give the best results. The crops should never be planted at a distance less than 8x8 feet. Whenever it is possible the land should be laid off in checks, dropping the seed in the checks.

After harrowing and smoothing down the soil the rows should be laid off with a wide shovel, and into this deep furrow the fertilizers can be drilled or distributed, and listed on with a turning plow. Throw four furrows together with the turn plow to make the bed and break out the middles later. This plan is simpler and less expensive than the old-fashioned way of making the hills with a hoe.

FERTILIZATION.

In all open land the best place for the watermelon is on land which grew a crop of peas the year previous. On such land the best fertilizer to use is stable manure distributed in the furrows, and then drill on top of that 300 pounds each of kanit and acid phosphate per acre. If commercial fertilizers are to be used in place of stable manure, a good mixture would be, equal parts of cotton seed meal, acid phosphate and kanit, applying same at rate of from 500 to 700 pounds per acre. Nitrate of soda is said to be better than cotton seed meal for watermelons, but this is not so convenient as meal, hence the above formula is suggested. In planting, the seed should not be spared. Put from 15 to 20 seed in each hill, and plant them in a circle, so as to be sure field mice and insects cannot get all the seed planted, as they are likely to do when the seed are all dropped in one place. A stand is very often lost on this account. Plant by hand, and after distributing the seed in a circle around the hill press each seed into the earth with the finger to a depth of not more than one inch and then cover. Plant the seed shallow, not over one inch in depth. When the plants have germinated, thin them down to three vigorous plants and later to one plant. After the first good season, break out the middles, and begin cultivation with the scooter and scrape. Many of the best melon growers never plow or hoe their crops until after the morning dew is off. Whether there is anything in this or not I do not know. Give two or three plowings, backing each time away from the vines, as it is very injurious to melon vines to turn them out of the way of the plow or to move them about for any purpose. At the third or last plowing it is a good idea to make a light sowing of cowpeas broadcast, which if not sown too thick will materially help in giving a cutting for hay later on and tend to shade the young melons from the heat of the midday's sun also. A peck of seed to the acre is about right in sowing the cowpeas. There are a large number of splendid varieties of water-melons, certain kinds being favorites in certain localities. Any thin-rind melon of tried reputation is good for family use. The most important thing is first to get pure seed, then prepare the right kind of soil, fertilize properly and work the crop as needed. If these few suggestions are followed there is no good reason why every family living on a farm in the South should not have an abundance of choice melons a little later on.

HOG MANURE FOR CORN.

Hog manure contains an excess of nitrogen to a greater extent that the manure of any of the remaining domestic animals. A ton of hog manure contains nitrogen 17 pounds, potash 6 pounds and phosphoric acid 8 pounds. In order to balance this manure for corn it is necessary to take for comparison therewith, a properly balanced fertilizer for corn. Such fertilizer should contain nitrogen 2 per cent., potash 7 per cent., and phosphoric acid 6 per cent. The potash is to the nitrogen here at 7 is to 2. Therefore, the potash in the hog manure should be increased until it is to the 17 pounds of nitrogen as 7 is to 2. To do this we take 7-2 (seven halves) of the 17 pounds of nitrogen, which is 59½ pounds. The phosphoric acid of said balanced fertilizer is to the nitrogen of same as 6 is to 2. Consequently 6-2 (six halves) of the 17 boundspounds of nitrogen will give the necessary phosphoric acid, which is 51 pounds.

But a ton of hog manure contains 6 pounds of potash and 8 pounds of phosphoric acid, which should be deducted respectively from the 59½ pounds of potash and 43 pounds of phosphoric acid, leaving 53½ pounds of potash and 43 pounds of phosphoric acid to be added to a ton of hog manure to properly balance same for corn.

After a ton of hog manure has been balanced for corn it will contain nitrogen 17 pounds, potash 59½ pounds and phosphoric acid 51 pounds.

106 pounds of muriate of potash, or 424 pounds of kainit will supply the potash needed for balancing purposes, and 207 pounds of 14 per cent acid phosphate will supply the necessary phosphoric acid.

An easier way to balance hog manure for corn is to multiply the 17 pounds of nitrogen by 3½ which will give the necessary potash, 59½ pounds. Then multiply the 17 pounds of nitrogen by 3, which will give the necessary phosphoric acid, 51 pounds. Then deduct the potash and phosphoric acid and the result will be the same as the above.

In the same way hog manure can be balanced to suit the requirements of any crop, the quantity of potash and phosphoric acid being varied to suit.

The effect of unbalanced hog manure is to produce a rank growth at the expense of fruitage. Hence, it will pay remarkably well to balance the manure by the addition of the above quantities of potash and phosphoric acid.

It will be best to first apply the muriate of potash or kainit as the case may be, to the manure in proper quantities at short intervals, say once a week. Kainit is considered best for this purpose. Proper measures shold be adopted to prevent the manure from heating. A gentle warmth may be developed, but nothing more. During the period of fermentation the potash of the kainit will combine with the ammonia of the manure and form saltpetre, thus largely increasing the value of the manure.

After the fermentation is over the acid phosphate may be added and the manure soon thereafter applied to use.

For cultivated crops I am in favor of applying the manure in drills on belts of proper width and mixing same with the soil. Fertilizer thus applied will generally render double the service that it will when broadcasted. The roots of plants will principally form where the plant food is to be found. Therefore, they are not disposed to leave the drills and run out into the poor soil in quest of food to the extent that is generally supposed.

BRYAN TYSON.

Carthage, N. C.

CULTIVATION OF COTTON.

Cotton is a semi-tropical plant and should not be planted until the soil becomes sufficiently warm. The time for planting varies. In southern Texas planting usually commences about the first of March; in the extreme northern belt the 10th of May. A line drawn from Old Point Comfort, Va., to Cairo, Ill., may be regarded as the northern limit for cotton.

The land should be well prepared for cotton. Then lay off into drills about four feet apart, preferably north and south, or better still in line with the sun at two o'clock. It has been found that cotton in such rows is less subject to rust than in rows running east and west. Use, per acre, from 400 to 800 lbs. of a fertilizer containing nitrogen 3 per cent, actual potash 4 per cent, available phosphoric acid 8 per cent.

In lieu of the above the following materials may be mixed and used:

For Nitrogen Use: Nitrate of soda 65 to 130 pounds, or dried blood 110 to 220 pounds, or cotton seed meal 165 to 330 pounds.

For Phosphoric Acid Use: Acid phosphate 250 to 500 pounds, or dissolve bone 213 to 430 pounds.

For Potash Use: Muriate of potash 30 to 60 pounds, or sulphate of potash 30 to 60 pounds, or kainit 120 to 240 pounds.

The fertilizer is preferably applied in the drills a few weeks before seeding and well mixed with the soil.

Kainit is considered the best form of potash for cotton, frequently being a complete remedy against rust.

Distance in the Drills: Single stalks may be left in the drills from 12 to 24 inches apart, according to the fertility of the soil; rich soils require a greater distance than poor or medium soils. If the distance be greater than 24 inches it will afford excellent facilities for the cotton to open, but it will on most lands be attended with lost. On very rich land the rows should be wider than 4 feet and the distance in the drills more than 24 inches. To be short, the greatest distance that sulphate of ammonia and bone meal but little used—omit them—will not result in loss should be given, thus affording proper facilities for the cotton to open. Distance is especially needed for wet seasons; otherwise the excessive weed that will be produced may delay the opening of the cotton and cause it to be caught by frost.

TO MAINTAIN A FAIR PRICE FOR COTTON.

To do this there must not be an overproduction.

In 1840 cotton sold at 16 cents a pound. By 1880 the crop of 1840 was doubled, but in the meantime the price of cotton had fallen to 8 cents, consequently the crop of 1880 yielded only the same amount of money that half the quantity of cotton in 1840 had done.

The United States produce about 85 per cent. of the cotton of the world, and if the people were properly organized they could easily maintain a fair price for cotton. The only practical plan appears to be to reduce the acreage to some proper quantity, say 4 acres for each horse or mule employed in the cultivation of cotton. Cannot the people of the States interested call a convention and devise a plan for effecting said purpose? Cotton could then be produced at a profit instead of a loss, as is now frequently the case.

To do anything in the above line a start must be made. It is therefore suggested that the press of the country take the matter in hand and call attention thereto in a series of articles. Concentrated effort may accomplish much.

BRYON TYSON.

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