Farmers' Forum and Monthly Digest

EDITED BY J. N. BIGHAM.

Some Refelections Concerning Soil

Soil.

What did you eat for breakfast this morning? Perhaps bacon and eggs, meal, potatoes, and a glass of milk. Where do the things you eat come from? Some come from animals, some come from plants, but you know that in the last place everything that you get from a plant. Where do the plants come from? We all know that they come from the soil. Your life, and the life of our animals all trace back very quickly to the soil. If we were heathen and worshipping nature, we could very easily have Mother Earth as one of our goddesses, for every one enough to thing knows that it is a source of life.

But this wonderful thing from which comes all life? Take up a handful. There it lies in your hand, a dark brown or yellowish dirt. Maybe you can see some sand particles scattered through it. You feel it, and find that if it is moist and a clay, it will stick together, and that if it is sandy it will crumble to pieces. It has no particlar smell or taste. We haven't learned much yet. Then we can go out and look at the soil in the field; watch it when the plow turns it over; look at it after a rain, when the water is gone, and with the soil it is carrying away. We can do these things year after year, looking at the soil when it is wet and when it is dry, working with the plow, harrow and cultivator. We can do these things for years—just as your father has been doing we would learn many things about this wonderful soil. We would learn all that we would have to know in order to make plants live in it, but I am sure you boys would like to learn more than this, just because the thing is so interesting. It is interesting to know so much more than how the soil you have over was made; if you know what it is composed and if, from these things, you can figure over in just the right way to make the best kind of a soil for plants.

A soil expert looked at it, smelled it, felt it, and saw how it acted in the field, and might do, but this did not take much, and he wasn't content to look at soil under a microscope and found that it was composed of many different sized particles. Some of them were so small that if you would lay five thousand of them side by side they would cover a space an inch long. Others of the soil particles were so big that fifty of them laid side by side would make an inch. He noticed that the sandy soils had mostly these bigger granules, while the clay soils were made up largely of the smaller ones. He noticed that some of the particles were round, while others were pointed, jagged and angular. Yes, our soil expert looked at the soil very carefully under the microscope and learned many very interesting things.

He took soil and weighed it. Which do you suppose weighed the heaviest, clay soil or sandy soil? I suspect that most of you would make a bad guess at this question. The soil expert found that a cubic foot of clay soil weighs about seventy-five pounds, while a cubic foot of sand soil weighs about one hundred pounds.

Then our imaginary soil expert watched the way water and air act in the soil. He found the little soil particles had air spaces between them. He also saw how that, when soil is moderately moist, each little granule has a film of water around it.

He looked at the very small plants and animals living in the soil, and especially the soil bacteria. These are smaller than the end of a point on a pin, yet they do a wonderful work in the soil, for if they were not there, you and I would not be living. He took soil to his laboratory, and found that it had in it nitrogen, phosphorous, potassium, magnesium, aluminum, and several other things. Some soils had more of one thing, and some had more of another.

Then perhaps he thought, "Where did soil come from?" So he went to a geologist and asked him about how rock broke up into soils. He learned thousands of interesting things, and many things that are very valuable in farming.

One of the most valuable things this imaginary man learned was when he turned farmer himself for awhile, and watched the way plants grow in the soil. He found that plants, just like people, appreciate a good home. They want enough to eat and drink; they must have air to breathe; they must not have too much water, or they will drown; they like a good soil in which to push around and place their roots.—Wallace Farmer.

Farm Life School

(BY THE EDITOR.)

The legislature passed an act ... township or county in ... can by complying with the ... of that act erect, equip and ... school that shall be known ... County Farm-Life School". The ... school shall be to prepare ... agricultural pursuits and farm ... prepare girls for home-making ... housekeeping on the farm. ... courses of study in said school shall ... to the approval of the ... superintendent of public instruc... an advisory board on farm... to be appointed by him. ... however, that the course of ... shall include practical work on ... by the boys and practical ... in all subjects relating to house... and home-making by the girls. ... Hill, president of the A. & M. ... at Raleigh speaking in the ... meeting at the court house, said ... while waiting for a train at ... Southern Pines, that a negro being ask... the train was on time replied: ... dead on, but I ... heard her holler." Some ... ladies present, wanted ... know what the negro meant and ... that the darky meant that ... train was on time but he hadn't ... heard it blow.

Continuing Dr. Hill said the country ... public school was on time and he ... expected to hear it blow any time. ... certainly no one who has given any ... thought to agricultural conditions ... would venture to say that such a train ... was ahead of time. Let us take Meck... lenburg—most of the cultivated land ... in this county was cleared and put in ... cultivation sometime during the first ... half of the 19th century or in other ... words some 50 or 75 years ago. For ... the first 10 to 20 years after it was ... brought under cultivation it responded ... very well to the culture of that day, ... but as the years went on the virgin ... fertility—the humus contents of the ... soil, gradually become exhausted to ... the point where to the most casual ... observer, something had to be done ... to wrest a bare pittance of return from ... the once fertile soil. About this time ... in the middle of the 19th century ... guano beds of Peru were discover... ed and by the last quarter of the ... century the use of commercial fertili... zers had become general. Eureka—we ... have found it. But lo, and behold, all ... that glitters is not gold. As time went ... on the application had less apparent ... effect and the gradual depletion of ... the farming lands were noticeable on ... every side. About this time, say, the ... last quarter of the 19th century, the ... state experimental station, made pos... sible by the Hatch bill, the agricultur... al college and the farmers institutes ... on this side of the Atlantic and the ... famous farm of Gilbert and Laws on ... the other side, began to discover some... things and to publish their findings. ... In other words, that men with scien... tific training had discovered that the ... exhaustion of the soil was essential... ly a science, and that he who is to ... farm it successfully, must have a ... knowledge of the laws that govern ... plants. Time was when the "gink" ... was supposedly, too stupid to ... enter the professions—law, medi... cine and so on, why, he was graded ... right to make a farmer. This view ... point, however, has been refocussed ... and now appears in quite a different ... light. And justly so. There is no wider ... field of knowledge than agriculture. ... For good and various reasons too nu... merous to merely mention, muchless ... discuss in this article, the 20th century ... farming must, of necessity, be con... structive, as against destruction; re... pletion, as against depletion. Our par... ents did the very best they know in ... the light of the knowledge of their ... day and we should prefer no unkind ... charge against them. Nevertniess, the ... advent of the 20th century found the ... farmer face to face with a condition; ... not a theory. To meet that condition ... the farmer must have a greater knowl... edge a better mental and mechanical ... equipment and to furnish this equip... ment the county farm-life school has ... set itself to the task.

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DAVIDSON CAMPUS NEWS.

Davidson, April 1.—The track team under Director Osborne left yesterday for Greensboro, where today they will enter the meet with Guilford college.

The baseball team is leaving today for Raleigh and Durham. They will play A. & M. in Raleigh Monday, and Wake Forest in Durham Tuesday.

Dr. Smith is preparing a questionaire to submit to all the students in college who failed on any tickets last fall. A large list of questions will be asked, and in this way the president hopes to probe more fully into the cause of failures, and as far as possible correct them.

Dr. J. W. MacConnell, of the biology department, left a few days ago for his old home in McConnellsville, S. C. Since his arrival there, however, he has had an attack of tonsilitis, and as yet is unable to return to Davidson.

Dr. C. M. Richards is evxpected to arrive home today from Hamer, S. C., where he has been attending the celebration of the eighty-third birthday of his father.

The finals in the declamer's contest will be held next Saturday night, when the six men who won in the preliminaries will speak for the two medals.

Mr. J. E. Evans, '10, was on the hill yesterday. He has just closed his school near Red Springs, and is on his way home.

A Lively Shoe Sale.

The shoe sale at Foreman & Miller Comany's store opened Saturday morning with a crowd in waiting that quickly filled the store to its capacity. It soon become necessary to lock the doors to prevent dangerous crowding, admitting new customers as those who had been served passer out.

So many were unable to gain admittance to the store Saturday that the management has decided to offer a special Monday morning bargain which is advertised elsewhere in this paper, for the benefit of those who could not be served Saturday.

"Nothing is so bad that it couldn't be worse," quoted the Wise Guy. "Yes," agreed the Simple Mug, "we can't suffer from insomnia and nightmare at the same time."

HOW TO PROTECT PLANTS FROM FROST BITE

(By A. A. Otto, Observer, Charlotte.)

(Written Especially for the Farmers' Forum.)

To be able to protect vegetation from the damaging influence of frost, it is quite necessary to know the conditions which cause it, and in a general way to understand the theory of its information.

It is well known that clear, cold weather, and a night with little or no wind, are necessary conditions. Further, the dew point must fall to or below the freezing point of water, (32 degrees,) and for this to occur, there must be a low percentage of relative humidity.

The terms, humidity, absolute humidity, relative humidity and dewpoint are ones we hear quite frequently, yet are not often understood. By atmospheric humidity is meant the moisture existing in the atmosphere in the form of water vapor. Absolute humidity is the measure of this amount of vapor per given volume of air. It may be expressed in grains per cubic foot or yard, or as a part of the weight of the atmosphere, usually expressed in fractional parts of an inch of barometric pressure. Relative humidffy is the ratio of the amount of moisture in the atmosphere at a given temperature and pressure, to the greatest possible amount which it will hold at that temperature. This is usually expressed in percentage. If the humidity is 50 per cent, then the air is half-saturated and at the same temperature and pressure could hold twice as much moisture.

The dewpoint is that point to which if air is cooled, precipitation of moisture results. As stated before, to produce frost the dewpoint must fall as low or lower than 32 degrees.

As soon as the sun sets, the earth and vegetation lose their heat quite rapidly radiation and convection, principally. By radiation, the heat passes outward in straight lines in rays similar to rays of sunlight. They lose their heat to convection currents in the atmosphere caused by unequal cooling of different layers of air, thus causing a sort of circulation.

When water passes into vapor, heat is used up in the process. This remains latent in the vapor, and is known as the latent heat of vaporization. When the water vapor is condensed, this heat is released again. On a cool night, when the air is quite humid, this condensation begins early in the night, and so much heat is released in the process of condensation that further cooling of the air is prevented and the frost temperature is not reached; therefore, the dryer the air, the better the chance for frost, other conditions being favorable to its formation.

From a study of the foregoing, it can then be reasoned that to prevent frost, the best methods will be (1) to prevent radiation of heat to the air, (2), raise the temperature of the air, (3), cause convection currents artificially, or (4) add moisture to the air.

The first two methods are perhaps the ones most easily used by the ordinary grower, and of these two the first one is used the oftener. This can be done by a direct covering of the vegetation with newspapers, dry boards, straw, moss, etc. It is a wise provision for the small farmer to have on hand a good supply of some protective material ready for use on indication of frost.

For the extensive farmer, these methods can hardly be resorted to on account of the great amount of labor involved. If the field be in a valley or surrounded by woods, smudge fires are the best protection, filling the air with smoke which acts as a blanket to prevent further radiation of heat from the plants and the earth. Wet straw, with enough dry straw to aid burning, is good material for this purpose. Wet manure soaked with kerosene is another good substance. Any thing that will burn slowly and make a dense smoke, old leaves, moss, rotten hay, etc., will answer admirably.

Where water can be turned around the plants, this has proven a good preventative of frost, but is hardly practical in this section on account of the rolling surface of the land.

The farmer who locates his orchard, truck patch or vineyard on a hillside, acts wisely on account of what is known as temperature inversion, i. e., the air over the hillside being warmer at night than the air in the valley, the cold air settling into the valley after nightfall. But he who has inadvertently located his orchard in a valley, can use the smudge fires to a better advantage, as the smoke will settle into the valley on a still night and remain there with but little replenishing during the night.

Fruit trees, when laden with blossom, can be protected by heat placed under the trees or by fires built at intervals in the orchard, thus raising the temperature of the air over the orchard and setting up convection currents in the surrounding atmosphere, both aiding in frost prevention. This method has been successfully used where the temperature dropped below freezing

Some will say these methods are expensive. Seemingly, they are, but where a fruit crop can be saved by a few cents expenditure per tree and a small amount of labor, it would be folly not to make the effort.

The frost warnings issued by the weather bureau are very reliable, and the farmer who makes use of these warnings will find it greatly to his advantage. Too many risks are taken by the average farmer. A severe frost may, in a single night, lose the labor of a whole month, or perhaps more, when by simple and inexpensive methods, judiciously used, the crop might be saved, whether it be the small patch of beans in the garden or the hundred-acre orchard.

Spring Plowing- Some Suggestions

(By R. B. SULLIVAN.)

(Written Especially for Farmers' Forum.)

I desire to caution against subsoiling in the spring, or plowing up the unpulverized subsoil. Either is absolutely injurious after the winter freezes are over. I know from experience as well as from observation that one should not subsoil in the spring. The subsoil is too wet from the winter's rains, and will not be dry enough any more until after the time for spring preparations have passed. So do not subsoil in the spring.

In all the breaking done after the 1st of March it is very necessary to keep the smoothing harrow following the plow—never more than a half day behind. I make it a rule to keep my harrow with me and before the noon hour I harrow all I have plowed in the morning, and in the late afternoon harrow what I have plowed in the evening. One will never be able to catch the soil in as fine a condition to pulverize as when freshly plowed. If you supply yourself with easy way of coupling and uncoupling, I would suggest a harrowing up with plaw twice each half day. I have been practicing this method this spring, and think I can see the surface soil in finer condition than if left for several hours exposed to wind and sunshine.

Balance the Account.

With the first of April comes the season of spring. The responsibility of another crop forces itself upon the farmer, but what of the past? Have your efforts been generally successful, or are you unable to realize the gains you have made? Have you kept accounts as you went along so that you have been able to know the extent of your success, or the lack of it?

This is as important as any other incident of farming, but it must be confessed that farmers do not give it the attention it deserves. Few keep accounts as they ought to do, and in this the farmers lack in business. If a merchant, or a manufacturer, or a miller, or even a doctor or lawyer, were to fail to keep accounts there would soon be work for the bankruptcy courts.

But let us assume that the present reader has kept accounts and knows the condition of his business. If in balancing his accounts he finds profits to his credit, from which side of farming did they come, the producing side or the selling side? Both, he is ready to say; he produced well and he sold well. All right; consider it so.

But suppose the balance shows a loss or fails to show a gain? Which side is responsible for the failure? How was the production? About as usual, possibly a little better than usual. At all events, that depended upon you and nature, and you did your best, didn't you? Why, then, was there not a balance in your favor? The prices were low and you marketed unseasonably. The failure was clearly on the selling side, and there is where it is almost every time. And if properly analyzed the gains will nearly always be found on that side also.

We, therefore, urge farmers in this bright spring time, in this season of beginning things, to cast up their accounts and strike a balance. Learn what you have been successful in and in what you have failed. Look well to the selling side, and see to it that the producing side does not monopolize your knowledge, attention and efforts.—Up-To-Date Farming.

Strange Case Of Parricide

Paris, April 1.—A strange case of parricide is occupying the attention of the authorities at a small place near Le Mans, where a young farm owner is allegd to have murdered his father, a railway employe in Paris, after sending him an urgent telegram. The son had inherited a farm from his grandmother, and wished to purchase another piece of land adjoining. His father had been a steady railway employe, and had put by a little money, from which the son asked him to advance him a certain amount. The father gave him 400 pounds some time ago, but when his son made the second application he positively refused.

A dispute took place between them, and some days afterwards the father received a telegram in Paris, telling him that his son was very ill. The father left Paris at once, and arrived at his son's place at 4 o'clock in the morning. What happened then is not yet clearly established. Some hours later, the son, who was not il lat all, called on a doctor and told him that his father had committed suicide. The doctor found three bullet wounds in the corpse, which seemed very suspicious. He informed the authorities and an inquiry was begun, which ended in the arrest of the son. Two gendarmes who had been sent to watch him tried, it is said, to obtain an explanation from the young man, who persisted in saying that his father had committed suicide. One of the gendarmes quietly took him aside and told him that this could not be true. He must have had provocation from his father. The son thereupon said that there had been, and, it is alleged, virtually admitted that he had shot his father, but he persists in maintaining that it was in the course of a quarrel that he fired three shots at his father.

On the other hand, a neighbor who remained up on the first night at the wake states that the prisoner took out a number of bank receipts for various bank deposits belonging to his father. This, ogether, with the strange telegram sent the night before the alleged murder, are points on which the prisoner will be closely questioned.

TYPE OF HOG WHICH IS THE MOST PROFITABLE

This is an age of progress and advancement toward a higher degree of improvement, says H. O. Correll in the American Swineherd, consequently the breeder and farmer is continually confronted with changed conditions; therefore, in order to adjust their operations to the present demand and these changed conditions they must produce as near the ideal hog or yielding the most pork and lard at the earliest age possible by the most economical system.

Years ago, when land and all kinds of feed and labor were cheap, it was the custom (and no doubt most profitable) to feed our cattle for the market at three years old and even four years of age; also hogs proportionately the same. It could be done at that time with profit, as the original investment as well as cost of production was not compared with present day conditions, but time and experience has developed this method as improper, and the thrifty feeder has discontinued the plan. The successful feeder of cattle does not select a coarse, rough, out of proportion sort to begin with, but instead it will be the good sized medium kind, with style, finish, and good feeding quality, just the kind that respond to feed and care from the first hour of investment. A coit that has been developed into a tall, rough, gangle legged horse will never be found in the barn of a successful breeder and expert draft horse feeder, who feeds for the most profitable markets, but he will select the grade that will develop into large horses with all the style, finish and feeding quality he can get. The shrewd and money-making cattle and horse feeder has found that it takes no more attention and not so much time and expense to feed the quick and responsize sort as it does the disappointing kind; the same disappointment comes to the breeder and feeder of the undersized kind consequently if men are devoting their talent to this particular line why not derive the best results possible?

The same principles that guide the beef cattle and draft horse feeders into the port of success must be observed by the men who feed hogs for the great markets of the world, and the breeder of thoroughbred hogs, who keeps this practical idea in his head and practice, will be the breeder whose worth and influence will be felt throughout the commercial world.

Disease and feed must be considered among the most important factors in the hog breeding and feeding business. From a disease standpoint the sooner into market the less risk of disease; from a profit-feding standpoint it is an established fact that the greatest profits are taken up to the mean or equal distance between extremes.

It is a loss of time and opportunity for a few breeders or a small minority to indulge in some local 'fad' (even if they are sincere and honest in their convictions). If a certain style of type does not meet with general or popular favor it will finally dwindle and die from lack of support. Life is too short to swim against the current.

Even when corn is high the relative price for pork frequently makes it the cheapest feed for finishing; 50 cent corn is not expensive feed for six-cent hogs. Up to the last six weeks of feeding, wheat, rye or other cheap substitutes may be used with grass, but in the ordinary course corn will be the best dependence for the close of the fattening period.

Civil Service Coming High

London, April 1.—A sum of $96,755,000 will be required to meet the expenditure on the civil services during the first three months of the fiscal year, which commences today. Details of the expenditure are set out in a White Paper issued recently.

For the whole year the sum estimated for is $359,338,596, as compared with $327,065,420 voted during the session of 1910. A large part of the increase is accounted for by extra payments of old age pensions. The amount taken for the three months on this account is $15,000,000 and for the year, $60,075,000 will be required as compared with the total of $48,000,000 voted during 1910-11. For the purpose of the board of eduaction $18,750,000 will be required; the total on the year on this account is $71,875,000, as compared with $70,323,010 last year.

The postoffice vote for the year is $101,412,225, of which $27,000,000 will be required in the first three months Last year the total postoffice vote was $99,141,280.

They Will Rally Monday Night

Mayoralty candidates will have a great rally Monday night, Mr. Hawkins' forces having engaged the auditorium and the Bland management securing the Academy of Music for the evening. They tell as how they will get out all the voters and speak to them about the issues of the day.

The poll books closed at sunset last evening.

The campaign of the aldermen is almost as interesting as the one for the office of chief executive of the city, and, like it was said before, "the political pot is seething."

Farm Poultry

(By C. W. HUNT.)

(Written for the Farmers' Forum.)

There is little wonder that the average farmer pays little attention to hens and eggs, when he brings eggs to town and has to peddle from house to house and store to store and take less for them than the wholesale price for promiscouos by gathered eggs. Or worse still when he or she raised and keeps a large flock to find them on a strike in winter when eggs often get around 35 cents per dozen. These, I say, cause little wonder at the remark that there is nothing in chickens; but there is another side to this matter of farm poultry. If a man on a 50x60 foot city lot can make a hundred hens pay a profit at present high feed prices, there is no earthly reason why the women and girls cannot make even more. But chickens like live stock must have something more than bones and feathers back of them to do good work, though the same care can make "dunghills" do more than they do.

It costs no more to keep a bunch of good hens than poor ones. In fact it costs less to feed a flock of single combe White Leghorns from a known winter laying strain than to keep the heavier breeds—they eat less. I find a prejudice against the Leghorn on account of their forging capacity, but as cattle do not do well out in the open, and all kinds of weather, neither do hens, and they must be limited where grain and such are raised about the near premises. Coutralled they are as docile as any and pretty, appreciative and profitable.

A few dollars invested in eggs to set under the mongrel hens, some wire to make hens or better to piece off some rough ground for hen pasture, a small house, and you will be surprised. Eggs are the most profitable, but chickens always sell, and while getting eggs all winter you can, if you wanted large broilers, put a Rhode Island red cock with your hens and hatch early broilers then change to White Leghorn cocks for raising your pure layers, which ought to be hatched in April and May, in this climate to do their best the next winter. No cross will make a prettier, quick growing, large fryer than the above cross, and at same time does not do away with pure breeds.

Haphazard selling always discourages. Make engagements and keep them. Most well-to-do-families like to know where the butter, eggs and chickens come from, and if you raise good stuff you can deal with these at an advance of 5 to 10c per dozen above the retail market the year round.

The young people are the ones to get interested in such, and if given a show they will soon be paying their own way, be satisfied at home and not wanting to come to town to be a slave to for some business house. Your girls can handle chickens and if busy with time making their own money they will be less inclined to worry some light headed "top-not" to suffer the balance of life.

It costs but little to get books and bulletins on poultry culture, and any ordinary mind can comprehend it. Ask your congressman to send you Bulletin No. 236, "Incubation and Incubators," and Bulletin No. 51, "standard varieties of chickens," and any other they may have. These help you to know more. Any one who will take the pains to get together some good chickens, make engagements for guaranteed fresh eggs, can be independent and happy by using care and good sense and industry.

I have tested the thing to very satisfaction a city lot 50x60, where I keep 100 hens in a house 9x20 feet, and find the White Leghorn not only in confinement, but in winter layed more eggs bad days when in the house than on nice days in the open. The product has all been sold at from 5 to 10c above the market price and begged for at times. I have gathered as high as 71 eggs per day, all of which are dated with a handdater, so a man knows just how old the egg is when he buys it. At this time I am hatching incubator chicks by the hundred of the single comb White Leghorns, and selling many settings of eggs. Eggs are the profit, and the size or looks of a broiler has little to do with it when the profit is considered; for that reason a man wants a hen that will lay first of all things and all the experts have agreed that no chicken will lay as much or as saleable an egg as the single comb White Leghorn. If I were out where thousands are who read this I would in a gross time have an even 1,000 hens laying; eggs by the cross and everyone would be sold to hotels, hospitals, large schools, and well-to-do people at an advance over the market. Wish some one would kick me to the farm this very week.

Get a start with the right kind, the White Leghorns, and you will lay up money where you have bought on credit.

When the Boll Weevil Comes

A radical change in the crops of any agricultural state is a matter of serious and tremendous importance. Rapid changes in the cropping system of any country do not take place except under unusual conditions and influences, and whe such changes do occur, a great disturbance and demoralization of business results. For illustration, Louisiana produced $35,000,000 worth of cotton and $12,000,000 worth of corn in 1900, and $15,,000,000 worth of cotton and $35,000,000 worth of corn in 1910. This is a most marvelous change, in the two chief crops of the state, to have taken place in 10 years. No educational movement could bring about such a change. It took the compelling force of the destructionof y ing force of the destruction of the cotton crop by the boll weevil to bring about this revolution. In this change, however, agricultural and business disturbances occurred, which, in many localities, approached panic and demoralization.

The effects of the appearance of the boll wevil in its march from west to east, have been much the same everywhere, differing only in degree, not in kind. These effects have been hurtful, chiefly because they forced themselves upon the people suddenly and found them unprepared.

Will We Learn From Texas and Louisiana?

Will the East learn a lesson from the results of the ravages of the boll weevil in the West and begin the adoption of a cropping system in time to make the change, forced by the boll weevil, less sudden and harmful; or will it continue the one-crop system and remain unprepared for the changes which must as certainly be made when the boll weevil does arrive as day follows the night? No student of the human race, especially of the conservative, slow-changing farmer class, expects any section to prepare for the boll weevil, in the sense of making all the changes before the arrival of the weevil, which its actual appearance will force; but is it too much to hope that the eastern part of the cotton belt may prepare for the inevitable changes by a study of those crops and conditions which must be developed to meet the necessities resulting from the invasion of the insect into any section? That the sections now being invaded by the weevils are better prepared than that part of our cotton belt first invaded is apparent; but this better preparation consists almost entirely in a better knowledge of the changes which must be made to meet the destruction of a large part of the cotton crop, rather than in having actually made these changes before the arrival of the boll weevil.

A Change Inevitable.

A change in our cropping system is inevitable. A depleted soil and the high price of foodstuffs have been gradually effecting a change in our farming, and forcing greater attention to the production of home supplies; but this change has been taking place very slowly. The visitation of the boll weevil forces it at once. Such a change can not be made at once without disaster to many. New crops require new knowledge and new equipment, and these can not be acquired suddenly.

It is our duty, therefore, to admonish those sections of the country, which still have time to prepare for the certain change before them, to do so to the fullest extent possible.

To what crops shall we turn to take the place of a part of the cotton crop? Tobacco is an excellent crop in many sections; but the large amount of hand labor it demands, the small acreage which one man can cultivate, and its influences tending toward soil depletion and the one-crop idea or practice, make its adoption, as a general crop for the South, undesirable.

So, Beans and Peanuts.

In fact, our experience with the one crop, cotton, and the results of the one-crop system everywhere and at all times in the history of farming, makes the choosing of any one crop to take the place of the cotton crop undesirable if it were possible. The cotton acreage must be decreased when the boll weevil comes, but no one crop can be found that can take its place and to this extent, at least, the invasion of the boll weevil is not an unmixed evil. We must select several new crops to adjust our cropping system to the new conidtions. We must grow more food crops and more crops for soil improvement. Of these the peanut and the soy bean stand out prominently as offering tremendous possibilities. Of these two the peanut must be given first place in all those sections fitted to its growth. The sandy and sandy-loam cotton lands offer the best conditions for peanut growing. The clay lands and the northern part of the cotton belt may well adopt the soy bean as one valuable crop for meeting their needs for a substitute for a part of the cotton area.

The peanut is promising because it is a nitrogen gatherer, and our soils need nitrogen, which we now buy in commercial fertilizers, and for which we pay many millions annually. It is promising because at the ruling prices for many years past it is as good a money crop as cotton at from 10 to 12 cents a pound. It is a promising crop because it is an excellent food crop for man and beast. It is our cheapest hog feed, making pork at one-half the cost we now pay for it, by the millions of dollars worth every year. It furnishes more and better oil than the seed of cotton, which it may displace. The peanut improves the soil, when proper methods are followed, sells for a price which makes it a valuable money crop and furnishes both hay and "grain" for our live stock.

With the sole exception of cotton, perhaps no crop grown on our farms is the equal of the peanut, as a general farm crop. It is inferior to cotton because it will resent neglect more promptly and because the negro, who is a large agricultural producer in the South, has never learned to grow any other crop as well as cotton; but it is superior to cotton in that it is a soil improver, has a

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