



THE PROGRESSIVE FARMER.

THE INDUSTRIAL AND EDUCATIONAL INTERESTS OF OUR PEOPLE PARAMOUNT TO ALL OTHER CONSIDERATIONS OF STATE POLICY.

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AGRICULTURE.

FOR THE MONTH OF NOVEMBER, 1897.

at the wood shed is filled with wood, so that no trouble may be experienced in securing fuel necessary to cook meals and to keep comfortable.
 out, repair and make ready stock all barns, stables and house the stock at night. The weather has caused them to fish and improvement made the summer and fall.
 good roads and paths between and farm buildings, and let yard be so drained as that it become a puddle hole during winter. A good raised pathway made next all the buildings, it will not be necessary to walk mud from one building to another.
 provision for saving and storing manure from the stock. Let selected for the manure heap from the buildings, and where will fall upon it except the rainfall; and have the site sloped towards the centre, so seepage shall run to that point away from the heap.
 up and place under cover all implements not in actual use. The dirt cleaned from them, and the bright parts. In the winter, necessary repairs can be made. The weather is not fit for outdoor work, a coat of paint can be given. The advantage of this system would be that the country many dollars every year.
 the land to be plowed is covered with vegetation an application of 100 bushels of lime to the acre would be of great service for cropping next year. It improves the texture and makes the plant food in the soil. It could always be applied in the winter. If applied along with fertilizers, it has the effect of setting the nitrogen and thus impairs the value.
 shadows and pastures may be renovated by an application of red broadcast at the rate of 100 bushels to the acre. The lime is followed by harrowing the land with a heavy harrow, which will break up old sod and open the action of the air and the soil. The trash thus harrowed should be sown a mixture of orchard

grass, red top and tall meadow oat grass, at the rate of one bushel to the acre, and later in the winter, top dress with farm-yard manure. In the spring, the long litter should be raked off and the land be rolled, and the field will take on a new growth and stand for several years.
 The question of the crops to be grown next year should have attention at this time so that proper preparation may be made for them. The subject of the rotation of crops is one to which much too little attention has been given in the South, and the neglect of a proper rotation is one of the great causes of so much impoverished land. With the observance of a proper rotation, land should gradually become more fertile instead of becoming impoverished. One crop takes mainly one element of food from the land whilst another takes another, and a third actually feeds the land with at least one most important element, and draws from the depths of the soil other elements of food and leaves them near the surface for the support of the next crop. A wise rule is, never to grow two grain crops succeeding each other, and to let a deep rooting crop always be followed by a surface feeding crop. As far as possible, always provide that a leguminous crop, such as peas or clover, shall intervene between two grain crops, and let a grass crop always follow a deep rooting crop, and be only seeded when the land is in a good state of fertility. Now is the time of year when steps can be taken to establish a system of rotation under which the land can be improved. What is the best rotation to follow is a question depending largely upon local conditions, and must be decided each for himself, subject only to the general principles above laid down.
 Prof. Roberts has made a calculation from experiments made by him, that the farmers of New York State lose \$50,000,000 annually by neglect of their manure heaps and of the means at hand for making farm yard manure; and it is well within the mark to say that the farmers of the whole country lose annually from this cause \$500,000,000, a sum equal to the increased value of the farm crops this year, which is the cause of so much rejecting and dissatisfaction. In order to provide a part of the plant food thus lost through causes wholly preventable commercial fertilizers have to be bought and a large part of the crops have to be sold to pay for these. The farmers of the Southern States alone last year bought 1,138,802 tons of commercial fertilizers. Even at \$20 per ton, which is less than the average value of these goods, this means the immense sum of \$22,776,040 to be provided out of the crops grown in these States. Of this total tonnage Georgia took 335,617 tons; North Carolina 185,000 tons, and Virginia 171,704 tons, and even this immense consumption has been exceeded this year in all those States. In the State of Pennsylvania, where the Dutch farmers know and realize the value of farm yard manure, and make and save it more carefully than in most States, 150,000 tons of commercial fertilizers only were sold. If the immense loss of farm yard manure was prevented by a careful husbanding of all the means of making and saving it easily within the competence of every farmer, the commercial fertilizers bought would yield a much greater return, as only when supplemented by humus in the soil can they do their best work.—Southern Planter.

SEED CORN.

Dr. E. L. Sturtevant, says: "The true principle or rule at the foundation of successful corn culture is to select seed of a variety adapted to our uses, market and climate, which has prolific parentage through the largest series of generations possible. In order for this we must plant our seed fields by themselves, away from other corn. We must then, at the period preceding the bloom, go through our fields with the knife, and ruthlessly cut away every feeble stalk, every overgrown stalk, every stalk which departs from the type of growth that we desire, and above all, every stalk which does not show indications of bearing several strong ears. In this way only, can we insure the fertilization of our seed corn by pollen from productive plants, and in this way only can we intelligently keep the heredity of the plant in the direction of the continued prolificacy that we desire." If some person in every county would give special attention to improving corn by careful selection of seed and proper cultivation, he would soon find it a profitable business, with a brisk demand from his brother farmers for supplies of seed.

SOME REMARKS ABOUT THE CONDITION OF GERMAN AGRICULTURE.

Dr. Ernest T. Bynum, the newly elected Professor of History and Economics, in the University, has written for the Chatham Citizen a very interesting article relating to the condition of German agriculture. Dr. Bynum says:

In comparing the price of land in Germany with that in America it is necessary to bear in mind that the farmers there are heavily protected by the government and received in consequence a much higher price for their produce.

As near as I have been able to compute, the price of wheat there was \$1.20, of rye \$1.00, of barley \$0.75 and of oats \$0.50 cents a bushel. Good butter sells for 35 cts., beef at 20 cents and pork is a little higher than beef. Peas bring about \$2.00 a bushel and potatoes about \$15.00 a ton. Now these are cash prices and every producer finds a ready market in every town. The public highways are in superb condition and the cost of transportation is very small.

It is even doubtful whether land could bring such prices without the extremely low rate of interest prevailing all over Europe and the sugar beet culture. I regret my inability to compare with any degree of accuracy the price of sugar beets.

In the Province of Saxony and the Duchy of Anhalt this is most important crop and requires a far greater degree of intelligence and skill in its culture. The farmers generally own and operate the sugar factories as stock companies and those who market their own beets are paid according to the polarisation and the amount of sugar contained in the beets. Suffices it to say, this is considered the most remunerative of all the crops.

Another element to be considered in accounting for the cost of land is the price of farm labor. This is in general higher than in North Carolina. A farm laborer receives about \$17.00 a month and about half an acre upon which to plant potatoes. I will say just here that the Irish potato is the chief food supply of the poorer classes in Germany, and, indeed, in most of the European countries.

I have in the above list enumerated the chief farm products with the exception of hay. In regard to grass culture I can give very little information of value. Besides lucerne and clover, lupine is extensively cultivated and especially prized as a green manure to be used on red land. I have been told by agricultural scientists that this improved the quality of land more rapidly than any other grass. I should like very much to see this tried in Chatham by way of experiment; because its success in Germany and Poland has been so phenomenal.

ERNEST T. BYNUM.
 P. S.—I might have remarked that the barley crop exceeds that of all the cereals. One can conceive of its importance from the fact that the Germans consume more than 500 million gallons of beer annually.

KEEPING SWEET POTATOES.

Correspondence of the Progressive Farmer.
 I think the following plan a good one, and would have printed this letter in the bulletin, but the bulletin was out just before I received it, and it would be too late for the next one. There fore ask you to publish this letter for the benefit of the potato growers in the State.
 J. M. MEWBOORNE,
 Commissioner of Agriculture.

MAGNOLIA, N. C., Oct. 27, 1897.

Mr. J. M. Mewboorne, Commissioner of Agriculture:
 DEAR SIR:—Your letter of Oct. 21st received. You did not answer my question in regard to having and keeping sweet potatoes, but stated that there were many ways of having and keeping them in North Carolina, and wanted to know my plan. I will therefore answer your question as best I can. I have a large shelter covered with shingles secure from any leak. I put all that I make under that shelter. I put all of my large ones at one end of the pile and the small ones that I expect to bed at the other end of the pile. I then put on plenty of pine straw; long leaf pine straw I think is the best. When I think there is a plenty of straw, it is best to put on just about as much more. Then I saw plank just long enough to reach from the bottom part of the hill to the top of it and set them up all around the hill. I then put another coat of straw on top of the

plank that I set up around the hill, and then bank them with dirt just enough to keep them from being too cold. I use great care in putting them up thoroughly dry and free from any cut ones. I leave air holes all along in the top of the hill. I never shut them up only in the coldest weather. I pay strict attention to them all the time. If I think they are too cold, I put on more dirt. If I think they are too warm, I take off some of it. I never house them until frost has killed the vines. The great secret is to put them up dry and keep them dry and keep them at the right temperature not to get too cold or too hot.
 W. H. KORNEGAY.

P. S.—This plan has stood a test of twenty-four years. We have never been without them since the fall of 1873 (twenty-four years this fall). We have enough old ones on hand now to last us three or four weeks longer.
 W. H. K.

WHAT HAS THE ALLIANCE DONE FOR THE FARMER?

Mr. J. E. Spence, a vigorous and entertaining writer, discusses the above question in a logical and entertaining way in the last issue of the Chatham Citizen. What the Alliance has done for Chatham it has done for farmers of all other counties. Consequently the article will be read with equal interest in all parts of the State.

Mr. Spence writes as follows: "Has the Alliance accomplished anything for the farmers? We very often hear it said by thoughtless people that it has not. But the facts will convince any candid mind to the contrary."

"It is true the Alliance has not been successful in getting its demands into law. But that has been due to failure of so many of its members to stand as a unit for them. We have not succeeded in raising the price of farm produce. But under the circumstances how could we expect to. So many of our members were faint-hearted and gave up the fight before the real battle was on."

"But under the most adverse circumstances we have accomplished something. We have certainly succeeded in reducing the margin of profits speculators were making upon us. Take the price of cook stoves as an evidence. Our Business Agency put the price down to ten dollars. In only a short time the merchants were compelled to meet our price. Here was and is a saving of five to six dollars on every stove. Take sewing machines. They sold for from forty-five to sixty dollars. Our Agency put the very best quality to about twenty dollars. Now you can buy the best machine for nineteen to twenty five dollars. Take guano as an instance. We were paying thirty dollars a ton. Our Agency offered a better article for \$22. Now we can buy any standard brand for that. And while we have decreased the price we have forced the manufacturers to increase the value of the goods."

"Now I notice our new Business Agent proposes to make arrangements for us to buy chemicals and mix our own guano at a cost of about \$15 or less a ton, and at the same time get a better article than we have been paying \$22 for. Now here will be a saving of about one dollar on each sack we buy. How much will that save to the farmers of Chatham county, if they are in a position to take advantage of it? Can any honest man then say the Alliance has done the farmers no good. Remember I have mentioned only a few articles on which we have been saved hard earned dollars by our Business Agency. Dozens more could have been cited."

"But there is one more thing to which I desire to call attention. You have read of the new cotton press trust now in course of organization. What will be the result of it no one knows. But we do know it intends to rob the cotton farmers of the South of millions of dollars. That's what it's here for. If the cotton farmers were organized they could stamp the very life out of it in its infancy, as they did the Jute Bagging trust. But divided and scattered as we now are, what can we do? We shall be as straws in a whirlwind before this vast aggregation of capital. Our only hope for deliverance is through the Alliance, and that will be a vain hope unless we rally round its banner. Brethren, let us close up the ranks. If you have let your Alliance die, revive it at once. If you have quit attending its meetings, come back. We need you, and you need us. Talk this matter over with your neighbors. Let us have a revival."

OUR GREAT COTTON CROP.

Under the above heading the Scientific American of October 30th has an article which, to all cotton growers, will prove interesting.

The article is rather long, but unlike many long articles, it is interesting throughout, and we are glad to reproduce it for the benefit of the readers of THE PROGRESSIVE FARMER. The Scientific American, we must remember, is published in New York, and unlike us, speaks of it as a somewhat foreign subject:

While the few unlucky miners who have reached the Klondike are digging for the gold in the frozen ground of their Arctic home, and stories of the wonderful richness of the mines are published to agitate a world of readers, a different kind of a gold mine is being worked in another fairer and warmer part of our country, where the sun shines eternally and the conditions of life are all that one could desire for comfort and pleasure. The great cotton crop of the Southern States is worth several Klondikes; it yields profits to hundreds of thousands of toilers, and enriches our country by many millions of dollars. Our exports of cotton alone amount to more than the output of all the gold miners of the world. We get on the average more than \$100,000,000 annually from the cotton we ship abroad after deducting enough for our own use. The lauded wealth of gold and silver mines sinks into insignificance in comparison.

Early in October the new crop of cotton begins to come to market, and during the pleasant autumn months the white fields of the South are alive with pickers. Simultaneous with the advent of the first large shipment of the new crop, a great industry that gives employment to thousands of men throughout the country awakens into activity. The cotton is picked and baled on the farms scattered throughout the cotton belt, and an army of buyers appear there to solicit trade for their houses. Fully five thousand of these buyers are often in the fields at once, trying to secure trade for their respective houses. The advance couriers receive twenty-five cents per bale commission, and a good buyer will sometimes secure ten thousand or more bales for his house, making for himself the handsome salary of \$2500 for a few months' labor.

As most of the cotton received in New York is in transit for Europe or New England, and very little is consumed here, there is of necessity a great deal of transferring from wharf to wharf, and from vessel to vessel. Besides the longshoremen employed in this business, there are the truckmen and the owners and crew of the lighters. The truckmen transfer the bales when the distance is only a matter of a few blocks, and they charge about fifteen cents a bale. The lightermen charge about the same.

The lighters have greatly improved in recent years, and they have labor-saving machinery for facilitating work. They are mostly owned by the big cotton-carrying companies; but some are the sole possessions of their captains or small lighter companies who operate two or three. The ordinary lighter carries from 1,000 to 1,500 bales at a time. The lighters can draw up along side of a Southern steamer, and, by means of machinery, take the heavy bales from her hold and transfer them to their decks without much trouble. The crew of these lighters receive rather less pay than the regular longshoremen, but their labor is less onerous and wearing. The derricks do most of the lifting, while the men merely guide the swinging bales as they shoot up in the air and land on the deck of the lighter.

Each compressed bale of cotton weighs about 500 pounds, and uncompressed nearly a third less. Sea Island cotton is generally received here uncompressed, for there is a prevailing notion abroad that it is injured by the process. Nevertheless, greater care is exercised in handling the Sea Island than the ordinary varieties. There has been considerable discussion in late years about improving our methods of baling. Before the bales reach their final destination there is a large percentage of loss to be deducted through insufficient covering of the cotton, and this has prejudiced foreign dealers against handling American cotton except when forced to.

Cotton picking is done almost entirely by hand. Large sums of money have been invested in cotton picking machines, and several have been put in the fields to do the work of negro

laborers; but so far the problem of reducing this work to machinery has not yet been solved. The expense of picking is the heaviest item in handling the crop. It costs between fifty and sixty million dollars to harvest the crop annually. A negro picker in the slave days averaged 100 pounds of cotton per day; but this average is nearly doubled by the modern employers, who receive from 35 cents to 50 cents per 100 pounds in various States of the South.

When picked, the cotton is carted to the gin house, where it is weighed and piled away. The ginning process is nearly the same as that introduced by old Eli Whitney years ago, and there is no apparent need for any improvement. The fiber passes through a series of circular saws or rollers which tear the seed from the fiber and blow them out into two separate compartments. Formerly all this cotton seed was practically wasted; but now it adds about \$50,000,000 annually to the resources of the South. To every bale of 500 pounds there are generally about 800 pounds of seed, and a ton of this seed yields about thirty five gallons of oil, valued at forty to fifty cents per gallon. This part of the industry has sprung into existence only in the past ten years; but it is already an enormous business. In 1889 the export of cotton seed oil amounted to 6,250,000 gallons, and in the next year it reached 14,324,000 gallons. In 1895 over 1,200,000 tons of cotton seed were crushed and about 42,000,000 gallons of oil were obtained. Besides furnishing oil, the cotton seed, after it has been crushed, supplies the cattle with good food in the form of meal and cake, which is claimed to be only a little less nourishing than corn.

The cotton belt of the South has been greatly extended since slave days. Then it was considered to be only a narrow belt through Georgia, the Carolinas and Virginia; but it now measures about 600,000 square miles. All of it is not by any means cultivated with cotton. Probably not more than 20,000,000 acres are cultivated with cotton in any one year, and some years it has run less than half this number of acres. The average yield of this immense territory is between 6,000,000 and 9,000,000 bales. Texas leads all the other States by nearly one half, with Georgia and Mississippi following in order. With an average crop of 8,000,000 bales, we lead all other countries by far in cotton growing. India is second, with about 3,000,000 to 4,000,000 bales, and China and Egypt come next in order with less than 2,000,000 bales each. The cotton area in these other countries is being extended, however, and while the South will undoubtedly always control the markets of the world, she will suffer more or less from foreign competition. We produce the best cotton in the world, and in no parts of the globe can our famous Sea Island cotton be duplicated. This variety, Gossypium Barbardense, grows on the islands off the coast of South Carolina and Georgia, and produces a fiber about one inch longer than that of any other variety grown in this or any other country. The Sea Island cotton is as fine and glossy as silk, and the English spinners take nearly all that we can raise of this superior grade.

There have been many agencies at work to improve the cotton crop as well as to utilize the by-products; but so far the only real advance has been made through the slow process of superior cultivation and the improvement of plants by careful selection. Recently the newspapers gave currency to a story of a marvelous cotton plant introduced from Africa which promised to revolutionize the cotton industry of the world in a year or two. This new cotton plant was described as towering to the height of twenty feet, and producing a great mass of downy balls that would increase the acreage enormously. But R. J. Redding, Director of the Georgia Experiment Station, discounts the claims of the new variety, and adds: "The claim that the variety of cotton belongs to a different genus cannot for a moment be allowed. It is not even of a new new species, but simply a variety of Gossypium herbaceum, and very probably of local (domestic) origin."

Nevertheless, the cotton plant has been greatly improved in the last half century through cultivation and selection. Fifty years ago the old "peeler" variety of cotton was used entirely by the Southern planters. This was a long jointed, straggling variety, with comparatively few bolls to the stalk. The comparison between it and a specimen of the present "peerless" variety is vivid. The latter is short, compact in form, and loaded down with bolls. The first step in improving the plant was short staple cotton through careful selection and cultivation was followed by an improvement in the length and fineness of staple. This was accomplished by hybridizing it with the long staple or Sea Island cotton. The result of these two improvements, carried on through many years of careful work and study, is that the modern "W. A. Cook" variety shows such an improvement over the old "Dixon," popular forty years ago, that one would hardly recognize them as belonging to the same class of plants.