

# PROGRESSIVE FARMER

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

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## Agriculture.

### THE FORWARD MARCH OF NORTH CAROLINA AGRICULTURE.

Some Interesting Figures That Show That North Carolina Farming is on the High Road of Progress.

Correspondence of The Progressive Farmer.

In olden times the people were accustomed to retrospect in periods of seven years to ascertain the degree of progress made. It occurred to me a few days ago that a comparison of results accomplished on the farms of North Carolina between 1885 and 1899, and between 1885 and 1899 might interest a number of your readers.

In bringing out these comparisons, it will be necessary to make free use of statistics, which latter are erroneously regarded by too many people as not only dry but valueless. I trust to make the facts and figures in this article somewhat attractive. Why do I hope to do this? Because I know that every farmer in "the Old North State," and every other good citizen as well, is deeply interested in the State's progress and the State's future. I hope to accomplish this difficult task because the comparisons instituted will give an earnest of the splendid future that awaits the patient efforts of the tillers of the soil in particular and the people of the State generally.

There is a special purpose in this article: It is, by bringing to the attention of the farmers the aggregate number of acres planted in corn, for example, and the crop produced, to beget in the mind of each of them the inquiry: "Do I know accurately the number of acres I had in corn last year and the exact number of bushels produced, as well as the average production per acre?"

That is a very important inquiry because it is strictly a business matter. Would it be rash to declare that ninety per cent. of farmers do not trouble themselves with anything of the kind? They deal in estimates. Suppose that merchants or manufacturers were to conduct their business on estimates; how long would they be in business?

The foregoing paragraph was not written in a spirit of criticism, but in a spirit of sincere interest in everything that makes for the upbuilding of the seventy-five per cent. of the State's people who are engaged in agriculture.

In 1885 North Carolina gave 2,545,129 acres to corn and obtained 25,120,900 bushels. She sowed 599,117 acres in oats that year and harvested 4,425,600 bushels; she sowed 682,888 acres in wheat and garnered 2,790,000 bushels; she cut 96,680 tons of hay from 311,768 acres, and made 407,230 bales of cotton on 1,071,558 acres.

Seven years later, 1892, shows a record as follows: Corn, 2,485,010 acres with an aggregate yield of 25,347,000 bushels; oats, 5,332,000 bushels from 519,717 acres; wheat, 5,090,000 bushels from 716,942 acres. No record of hay or cotton that year.

In 1899, 2,457,936 acres yielded 31,923,800 bushels of corn; 398,934 acres gave 4,757,208 bushels of oats; 3,495,508 bushels of wheat were harvested from 321,731 acres; 130,526 acres in hay yielded 195,789 tons, and 629,000 bales of cotton were made on 1,311,000 acres.

The constructive facts brought out by comparison of years and their figures are as follows:

Between 1885 and 1892, the State made her acreage in corn by 60,100 acres, but harvested 148,000 bushels more than in 1885.

Between 1885 and 1899, the acreage in corn was reduced by 87,190 acres, but 6,754,168 bushels more were produced.

Between 1885 and 1892, the acreage in oats was reduced by 49,400 acres, but 4,999,000 bushels more oats were produced than in 1885.

Between 1885 and 1899, the acreage in wheat was reduced by 200,183 acres, but 1,301,208 bushels more oats were produced.

Between 1885 and 1892, the acreage in hay was increased by 34,054 acres, and the yield was greater by 2,307,000 bushels than in 1885.

Between 1885 and 1899, the wheat

acreage was reduced by 161,157 acres, but the crop of 1899 was 705,598 bushels greater than that of 1885.

Between 1885 and 1899, the acreage in grasses was increased by 28,758 acres; the crop of 1899 exceeded that of 1885 by 99,109 tons.

Between 1885 and 1899, the cotton acreage was increased by 240,030 acres and the aggregate crop was 222,390 bales greater than that of 1885.

These figures tell an encouraging story; it is one of gradual but steady progress. The results do not represent the agricultural possibilities of North Carolina; they are indications only.

Now, let us look into the question of the average yield of these crops per acre. There is a vast deal of good farming wrapped up in the average production per acre or lots of poor farming and poor land. In this day of progress, there should be no place in North Carolina for poor farmers, and there need be no unproductive soil in the State.

In 1885, the average yield per acre in corn was 9.9 bushels; oats, 7.5 bushels; wheat, 4.1 bushels; hay, 95-100 tons; cotton, 38-100 bales.

In 1892, corn, 10.1 bushels; oats, 9.7 bushels; wheat, 7 bushels; hay and cotton omitted.

In 1899, corn, 13 bushels; oats 12 bushels; wheat 6.7 bushels; hay, 1 1/2 tons; cotton, 48-100 bales.

Between 1885 and 1899, the average production of corn per acre was increased quite 45 per cent.; oats 60 per cent.; wheat quite 69 per cent.; hay, quite 58 per cent.; cotton, quite 27 per cent.; and yet the yield per acre of these crops, as above given, is far below the standard.

There is no question that better methods prevailed in 1899 than in 1885. Evidently greater attention was given to the preparation of the soil by plow and harrow and weeder, and a fairly liberal use of commercial fertilizers.

The results of 1899 compared with those of 1885 appeal to the farmers for closer attention still to the preparation of the soil and a more general and more liberal use of fertilizers that will supply the food that will enable the plants to make full returns.

The grasses, corn, oats, etc., need fertilizer as much as does cotton. Get the best, and, soil conditions considered, apply with an open hand. Exercise a wise judgment in purchasing and in using fertilizers. Do not buy for cotton the fertilizer you expect to use with grasses also. Feed the plant with the food it imperatively demands.

This done, and each crop thoroughly cultivated, bountiful harvests may reasonably be expected. This done, North Carolina will show a marvellous advance in 1906 as compared with 1899.

MARTIN V. CALVIN.

I have just a few hens and hatch a few chicks for the early markets, which pays for my trouble. This is my first year's experience in artificial hatching and I believe it to be the only successful way for hatching chicks for the early markets.—A. H. Crain, Washington Co., Ky.

The French Broad Press, of Asheville, N. C., pastes on its blotter some cotton hulls, with the following interesting information: Now it develops that cotton will serve as a substitute for wood pulp. The enormous demand for white print paper for the use of daily publications has created a problem of much interest and perplexity. When it is considered that one of the big New York publications, in its Sunday issue, consumes paper containing wood pulp from ten acres of forestry, it does not require much calculation to comprehend complete annihilation of the trees from which the wood pulp is made. It develops now that the hull, or pulp, of cotton seeds serves excellently for the manufacture of pulp. It can be produced infinitely cheaper than wood pulp, and experiments which have been made disclose an article so superior that the problem is believed solved. The Atlanta Journal estimates the value of this by-product of the cotton at \$150,000,000 per year.

### HARRY FARMER'S TALKS.

XVI.

Correspondence of The Progressive Farmer.

Harry Farmer is delighted to see and hear of so much improvement in our part of the State. A little head work and experimenting will be dollars in the farmers' pockets. Here are more items from our Colonists in and around Chadbourn, N. C. Harry Farmer offers no apology for calling names.

This tells of a success in stock raising and what work will do in the pine woods. Mr. H. B. Goodrich commenced four years ago right in the woods. He cleared six or eight acres of land which he cultivates and keeps about eight head of stock. Keeps them up all the time and makes a nice living. Messrs. T. H. Ramsbottom, E. B. Baily, and H. W. Whiting are engaged in raising peaches. In order to give some idea whether they are making or losing money, there have been 8,000 or 10,000 fruit trees set in the colony this winter. The strawberry business turns out from \$50 to \$200 per acre. One man who is a native, saw some of his new neighbors planting berries and concluded to try his luck, so he planted about 1 1/2 acres, gave them good attention. He did not use much fertilizer, as he was too poor to buy it, but when his crop was sold he went to his merchant who had helped him a little to count his checks, and after paying all expenses he had over \$200. He never had as much as \$50 at one time in his life before.

These farmers plant beans, Irish potatoes, oats, corn, peas, and sweet potatoes, but little cotton. Here are some of their crops. Oats are sown in February and cut early in June. The land is then planted in corn and peas a little later. The corn is cut after the Western style and the peas left to mature, then cut and made into hay.

Irish potatoes are planted like oats and dug the last of May or first of June. The large potatoes are shipped to the Northern markets. The small potatoes are planted in a very deep furrow and covered, after which cow peas are sown broadcast and a drag or leveller run over the land. As soon as the peas are mature enough they are cut for hay and the potatoes cultivated and a nice crop is the result. Just think of two money crops and one fertilizing and forage crop in nine months! Mr. J. A. Allen is the father of this plan. On every hand you can see improvements.

Occasionally there are failures, and some of the people get dissatisfied and more away, but the Colony is on the increase all the time. One reason for their success is they take farm papers and study them. They have good schools. It will pay our farmers to visit Chadbourn and see what is being done.

A farmer said an agent tried to sell him some land plaster at the price of acid phosphate. Plaster is very cheap—usually sells at \$6 or \$7 per ton. Some farmers use it on peanuts with success. I would advise them to go slow. If our farmers would study the agricultural bulletins more they could always detect impositions like the above. We have just read the Bulletin issued January 17th and read with interest the answer to the sorghum syrup question. The answer requires too much money to be used for the average farmer to make any profit. Harry Farmer has made thousands of gallons of syrup both from sorghum and West India cane. It depends a great deal more on the land in making a fine syrup than anything else.

To make a fine quality plant very light land and cut when seed on the lower part of the head is ripe, grind at once, and boil in any of the improved evaporators just as fast as it comes from the mill and you will have good syrup. In order that it may not be flavored by the barrel, have it thoroughly cleaned and dry. We prefer to have the syrup cooled in an open vessel like a tub or barrel with the head out. Some lands will not make good syrup from sorghum no matter how you treat the juice.

HARRY FARMER.

Columbus Co., N. C.

### IN DEFENSE OF SMALL FARMS.

A Mecklenburg Farmer Replies to Mr. Cates and Argues Against Large Farms.

Correspondence of The Progressive Farmer.

In a recent issue of The Progressive Farmer there appeared a contribution from Mr. J. S. Cates favoring large farms. In it, in my opinion, some erroneous statements were set forth as proof of his theory.

In the first place, he says as a result of the Civil War the Southerners were forced to adopt an unnatural and extravagant system of farming, from which they are beginning to recover. As I see it, the farmers are just beginning to see the error of trying to cultivate too much land—to realize the truth that a bale of cotton raised on one acre is cheaper than one raised on two, and the mistaken idea that large farms can be more profitably operated.

One good result of the war which cost the lives of so many brave Southerners was that it to some extent broke up the large farms, or rather divided them up. They were contributing, by means of slave labor, a small income to one man; now they give homes and a good living to twenty men who before the war could not have acquired them.

The large farms of, say 500 or 1,000 acres which was only "messed" over is now divided up and is being improved and labor-saving implements are taking the place of the older ones. If Mr. Cates will examine, he will find that tenants of large farms are the ones that are leaving the farms and going to cities, towns, and factories. Whether these farmers are right or not, is not for me to say.

Mr. Cates pictures off very nicely in his air castle the pleasure of having a large farm, but he overlooks the fact that fifty American citizens are thus deprived of a home and the blessedness of dwelling under their own vine and fig tree in order that one man may reap where he has not sown. You may call this sentimentalism; perhaps it is, but if so, we must remember that life is largely made up of such.

I am strongly in favor of labor-saving machinery and am glad to note that the small farms of Mecklenburg county are taking advantage of them. I know several farmers who were getting along very well, but concluded they could make more by farming on a large scale. They sold their small farms, going in debt to buy the large one. This done, they started off believing they had the world by the tail, using the best fertilizers by the ton. After a few years, though, there would be a sale, forced, and this farmer of the hundreds of acres would betake himself to the city, saying that nothing could be made at farming.

Mr. Cates says that small farms can't afford to have a scientific man at the head. He is mistaken there also. Why, are not our farmers all over the State realizing this and sending the boys to the school that prepares them for the work? Let us all educate ourselves in the system of economical agriculture and be our own head man on our own small farms.

W. A. McAULAY.

Mecklenburg Co., N. C.

"When a progressive farmer, by the use of improved implements and good teams can grow 100 acres of corn or cotton, how can a farmer compete who does his work with a single mule and an old time plow cultivating twenty five acres?" asks Farm and Ranch.

A mistake is too often made in using a whip on a spirited horse. Within my own knowledge there have been several good young horses of high mettle, spoiled for true pulling by being whipped when stalled. It pays well to be careful of the horses, especially the young horses; it is not wise to make them pull by whipping them. I don't believe it was ever intended that man should rule over the horse by mere brute force. To whip a stalled horse usually results in a bad horse. In very many cases it is the cause of their first balking. About nine men in ten will whip a horse that has balked. Put yourself in his place.—P. B. Meyer, Woodford, Va.

### HOW INSECTS LIVE AND GROW.

A Peep into the Lives of Two Representative Insects, the Fire Bug and the Potato Beetle.

Correspondence of The Progressive Farmer.

The lives of insects furnish us some of the most remarkable facts in nature. Most persons know them only in part, and give them little or no attention, but when closely studied the life-history and habits of almost any species becomes an interesting story.

The fire bug or calico back, which has been so destructive to cabbages and collards during the past season, is a native of Mexico, and has only migrated northward in recent years. However, it has already gone as far as Long Island, along the coast, but not so far North in the interior.

In the spring the adults appear and after a day or two begin to pair. Within three or four days, the females begin to lay the eggs in clusters on the under side of the leaves of cabbages, collards, kale, radishes, or other cruciferous plants. The insects are provided with a four-jointed beak, with which they puncture the leaves and suck the sap from within the tissues of the plant. As it lives on the sap and does not eat the tissue of the plant, Paris green would do no good, as it would not be eaten. For such an insect an irritant must be used, though this particular species is very difficult to control by any means.

There are nearly always twelve eggs in each cluster. The writer has made numerous observations and has bred the insects in cages and has reason to believe that under normal conditions there will always be twelve eggs in each cluster. The eggs are laid in two compact rows, side by side, so that the eggs touch each other. They are shaped like miniature barrels and are pearly gray and marked with black. At the end of about five days the young insect within is ready to emerge and breaks the shell off the top of the barrel-shaped egg and crawls out through the opening. At this time the insect is rather small, about the size of a pin's head and green and black in color. It has a four-jointed beak and well-formed legs like the adult, but no sign of wings. Indeed, next to size, the absence of wings is the easiest character by which to distinguish the young from the adult insect.

Almost as soon as hatched the young bug punctures the plant with its beak and begins to suck out the sap. This causes the leaves to dry up as if scorched by fire. Many persons whose cabbages have been eaten up by caterpillars, but were also attacked by this bug, have thought that the bug eats the leaves—a thing which is impossible for an insect with a beak fitted for sucking.

Within a day or two it becomes necessary for the bug to shed its skin to allow for its increased growth. After the moulting buds of wings may be found on the shoulders of the insect and with each moult of the skin these rudiments of wings increase in size until at the fifth moult they expand very greatly and after hardening are ready for flight. After this time the insect sheds no more. All growth is accomplished before wings are attained, and all food that is taken after the adult state is reached is to maintain life and provide for the perpetuation of the species. From the time that the young insect is hatched from the egg, it takes about 25 days to reach the adult stage, so that several generations may reach maturity during a single season. Late in the fall they may be found on late cabbage or seeding kale in neglected places. When winter sets in the adult bugs take refuge beneath logs, stones, etc., and pass through the winter in a quiet state, to renew activities when the weather again becomes warm.

In the case of this particular insect there is no time at which the young does not bear a resemblance to the adult, and, when the changes are of this nature the insect is said to undergo an incomplete metamorphosis. Some insects which undergo incomplete metamorphosis have

jaws for biting, as in the grasshoppers.

We will now consider a case in which the series of changes is different.

The common potato beetle, which is now generally distributed, presents a different series of changes from those shown by the fire bug. In the potato beetle the adults pass through the winter under ground or under logs, etc., and appear in the spring and soon begin to lay eggs. These eggs do not hatch into young beetles which resemble the adult, but into fleshy grubs, which bear no resemblance to the adult. There is no sign of wings, even after the grub has passed through several moults, and the legs are not so well developed, nor as complex in structure as they are in the adult. The body is soft, whereas it is hard in the adult. The feelers (*antennae*) are very poorly developed. After several moults the grub goes just under the surface of the ground and changes to an object which in science is known as the *pupa*. The ordinary person does not know the insect as it exists in this stage of its development. The legs are drawn up against the body and the wings are evident, as are also the *antennae*, but the insect in this stage loses the use of its limbs and does not move about or take food. Great changes are now going on inside the body, for the grub which has been moving from place to place by crawling is now to be fitted for a life in which it shall have free use of wings, hence a general re-organization, especially of the muscular system, is necessary. The body finally hardens and the wings are fully developed when the skin of the pupa splits open and the adult insect crawls out. In this case, as with the fire bug, and in fact with all insects, there is no growth after the time that wings are acquired.

In the case of the fire bug we have three distinct forms under which the insect exists. (1) egg; (2) young or nymph; (3) adult. All insects which pass through only three stages and in which the young resembles the parent, are said to have an incomplete metamorphosis.

In the case of the potato beetle there are four distinct stages and these are (1) egg, (2) young or larva, (3) pupa, (4) adult, and insects which pass through four stages and in which the young does not resemble the adult, are said to have a complete metamorphosis.

Examples of incomplete metamorphosis are found in the cicadas, the true bugs, and grasshoppers. Examples of complete metamorphosis are to be found in butterflies, beetles, flies, wasps, ants, bees, etc.

This little story of the nature of the changes through which insects pass may not seem to the farmer to have any particular bearing on the practical side of the insect question, but it is very important to the entomologist.

FRANKLIN SHERMAN, JR.  
Entomologist Dept of Agriculture,  
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### FARM ADVERTISEMENTS.

In a recent issue we suggested to farmers the advantage of putting up an advertisement of their own, putting the name of the farm, the name of the farmer, the business in which he is engaged; if in live stock, whether cattle, horses, sheep, or hogs, or all four, and then leave below it a blackboard on which he can write what he wishes to sell or wishes to buy. Since writing the article referred to, we find the following in the Linn county (Missouri) News, which shows that one farmer at least finds this kind of advertising profitable:

"James Jackson, one of our most prosperous farmers, is ahead of his neighbor farmers in erecting a signboard at his gate on the road. On this board is printed his name, the name of his farm, Jackson Farm, directions and distance to Chantilly, his postoffice. Below this he has a blackboard on which he may write what he has for sale. Mr. Jackson informed us that he has sold one horse and two cows and calves since the erection of his signboard, and he thinks the quick sales were the results of this advertising."—Wallace's Farmer.