THE PROGRESSIVE FARMER

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Agriculture.

DOES SIZE OF STALK INFLUENCE CORN YIELD?

Opinion of a Famous Illinois Corn Grower.

Correspondence of The Progressive Farmer.

On the same principle that a cow will not fatten easily, when giving a large quantity of milk, and that unusual mental endowments and great physicial stature are rarely found combined in the same person, a variety of corn given to great stalk and forage production, does not produce a proportionate quantity of grain. In fact such a variety of corn is degenerated by economical mother nature, to conserve its energy by means of lessened grain production. The production of a stalk of corn is a soil-exhausting process, demanding much of the plant's natural vigor. And a variety of corn which produces a very large stalk, invariably does so at the expense of its grain production, the plant's energy being used up before growth of grain. Luxuriant stalk growth makes the first demand upon the plant's natural vigor. In order to spend liberally on one side, the law of compensation, or balancement of growth, forces nature to economize in some other organ. If excessive nourishment flows to the stalk, it will in consequence be largely developed at the expense of grain-production. The prodigal development of a stalk of corn out of all proportion to the quantity of grain which it produces, shows that it is degenerating from grain production towards more exclusive stalk and fodder production. As it is very difficult to get a cow to fatten readily who gives much milk, on the same principle the small stalked variety of medium-sized corn develops a large quantity of grain at the expense of the size of its stalk. The law of correlated variation in plant growth comes actively into play in this connection. For if the breeder marks medium-sized stalks in his fields of growing corn, he can easily see that they will produce a much larger proportionate quantity of grain than will the largest stalks. There is no question in the writer's mind, but that the excessive growth of a stalk of corn diminishes its grain-producing capacity. There are but few kinds of cultivated plants that can produce two diverse and profitable products during one season's growth. Selecting in the field before ripe, a medium-sized stalk with a large ear, has a tendency to breed down the size of stalk, and to correspondingly increase the size of its ear, thereby establishing a grain-producing instead of a fodder corn.

Other kinds of field and garden crops will admit of the same principle. The seven-top turnip developing an enormous foliage at the expense of the size of its tuber, is a striking example of this. This case being strikingly contrasted in the purple top strap leaved turnip (both varieties are now growing on my farm), developing enormous tubers of fine table quality, much out of proportion to the quantity of its foliage. Certain particular soils and climates have a tendency to produce a too large growth of fodder and stalk, in proportion to yield of grain.

Therefore the medium-sized stalk of corn develops a one-pound ear at the expense of its size of stalk. A short thick stalk with a great profusion of blades, tends to center the bulk of corn-producing nutriment in the ear. The writer has discovered that the largest grains that can be found in any variety of short thick-stalked corn tends to intensify this character, and that the largest grain produces the largest grain yield per stalk. The writer, living, as he does, in the center of the greatest corn belt on earth, and in a locality of almost exclusive corn production, where probably the largest average crops of corn are annually produced, has during his 28 years' experience as a corn breeder, and seed grower, often verified the foregoing facts, while roguing his growing crops, and harvesting his seed crops. And has had plainly demonstrated to him that a fodder or ensilage variety of corn is not generally a good grain yielder, and visa versa. Such farmers as may be led through the reading of this article to select their seed corn any autumn, by proportional size, vigor, and healthfulness of the stalk, storing their seed away in a warm dry, well-ventilated place, will secure a good quality of seed corn for next year's crop, and will have their grain yield increased at the expense of stalk production. The writer fully believes that with the future great scientific development that will come in corn breeding during the next 25 years, our average yield and quality of corn will be largely increased.

All wide-awake farmers can help it on by each year planting a special patch of at least one acre of corn on their most fertile land, with seed from a like special patch of the preceding year. Critical selection of not only the year, but the stalk also, while it is growing in the field will, as the succeeding years go by increase the grain yield in a geometrical ratio. Try it.

J. C. SUFFERN.

Platt Co., Ill.

CLODHOPPER'S TALKS.

Some Plain Homespun Suggestions.

Correspondence of The Progressive Farmer.

One of the things Clodhopper wishes to urge upon his brother farmers at the beginning of the New Year is the value of keeping accounts. As I said some weeks ago, one of the costliest mistakes of North Carolina farmers is the fear of pen and ink—our habit of putting pen and ink work upon some one else, for which we always pay dearly. Not only keep account of goods bought and prices paid for them, but keep accounts with your cattle, your poultry, and your various crops.

I notice with some surprise that tests at the Massachusetts Experiment Station show better results in egg-laying from a ration made up largely of corn than were obtained from wheat rations. The trials have been continued through several years with similar results. I had the impression that corn was too heating, and that wheat was better. Perhaps the colder climate of Massachusetts has something to do with the case.

Pecan trees ought to be more generally grown. Many farmers believe they will not grow in this latitude, but this is all a mistake. There is a very fine tree within a block of our State Capitol that is loaded with nuts every year.

A senseless practice that ought to be stopped is that of burning corn stalks, leaves, dead grass, and other quickly-rotting rubbish on our farms. Most of our soils need humus—decayed vegetable matter—worse than they need guanos; and the corn stalks, vines, etc., make humus, besides returning to the earth much fertilizer.

I know two farmers near Raleigh who have recently engaged in bee keeping with good prospects of making money out of it. Bee culture pays if you adopt modern methods and study the business well. Give a studious boy Root's A B C of Bee Culture, and if he gets any enthusiasm on the subject get him some Italian bees in Langstroth hives, and he will not only give you honey for the table, but get clothes for himself and learn to think and act for himself, and will take a deep interest in farm life.

The scarcity of cattle in Central North Carolina is remarkable. In few counties are there enough milch cows to supply the demand. In Chatham and Wake they are very scarce.

Certain it is no branch of farming offers finer opportunities than dairying and stock raising. I notice from the Department of Agriculture reports that in our entire State the number of horses, mules, milk cows, and other cattle and sheep, is less than in 1897 by 173,500 head. Horses and mules have slightly increased in number, while cattle and sheep have largely decreased. The value, however, of the stock is greater now than in 1897 by $3,793,889.

CLODHOPPER.

Wake Co., N. C.

THE SCOTLAND ASSOCIATION.

Correspondence of The Progressive Farmer.

The Scotland County Farmers' Protective Association met in Laurinburg on Tuesday, the 11th inst., that date having been set for the regular monthly meeting.

The question of building a warehouse was discussed at some length, and continued until the regular meeting on the second Tuesday in January.

This county is anxious to co-operate with the State Association in organizing this State and also the Inter-State Association. Capt. W. H. McLaurin, of Laurinburg, was elected a delegate to the State Cotton Growers' meeting to be held in Raleigh in January.

E. F. MURRAY, Sec'y.

Scotland Co., N. C.

AGRICULTURAL STATUS OF NORTH CAROLINA.

Upon the above subject Corresponding Editor Irby, of The Progressive Farmer, contributes a very readable letter to a recent issue of the American Agriculturist. We are sure that what he says will be of interest to our readers, and we therefore copy his letter herewith:

North Carolina is at present attracting wide attention from the manufacturing world. Numerous cotton mills, wood work and various other factories are going up over the State. Ten years ago nine-tenths of her people were farmers, and only one-tenth were engaged in all other professions. There is a great change in progress. Many of those who were farmers are now turning their attention to other industries, and there is a large influx into the State of Northern capital and people to develop her natural resources. Many farmers look upon this change with despair. They feel that farming is about to play out. On the other hand, those who wish to farm can continue the business with every assurance of success, for whenever a man quits farming and manufactures profitably, he is one less in producing farm products, and one more on the side of consumers.

From present indications the State will be divided very differently in the next 25 or 50 years. That the agriculture of North Carolina is improving goes without saying, with those who contrast the condition of today with that of 10 years ago. Unfortunately for the North Carolina farmer, heretofore he was limited to his home market in the ordinary farm products. This State is often called a sample agricultural State, as it fills about every blank in the agricultural Department in Washington. Though growing such a variety, it excels in very few things. For instance, we cannot compete with Illinois in corn, with the West in wheat and oats, with Mississippi in cotton, nor with Louisiana in rice. In tobacco she excels in quality, but the yield is low. Hence the North Carolina farmer has been compelled to depend on the home market for the disposition of nearly all his crops. Now if our home demand increases and the number of farmers decrease in proportion to men in other lines of work, we readily see that we will obtain a better price for our products.

There is a slow but sure growth in agricultural interest, and, as our farmers are conservative, they take on new ideas and new methods rather slowly. The change is evidenced by the improved farm machinery now being shipped in. This was striking at our last State Fair. The manufacturers of these improved machiness send their goods, not only to localities where they are needed, but wherever they will be bought. The agents say they have never met with more encouragement than this fall. The farmers are calling for better seeds, and for greater varieties than ever before. The small grains, clovers, etc., are being sown much more extensively. It is not uncommon now to see farmers using cover crops for winter, thus protecting their lands from leaching and washing, besides securing some grazing. They are growing renovating crops freely during the summer, and practicing rotation. They are using fertilizers much more intelligently than ever before. There is a greater demand for good stock, and of course this means sales of live stock, milk, butter, beef, pork and wool, and the production of manure.

Some of the influences that have brought about this change are due to the Agricultural and Mechanical College, to the Experiment Station, and to work of the State Agricultural Department, through farmers' institutes, etc. The farmers are taking more and more interest in the College, and instead of ridiculing the idea of an agricultural education, they are growing proud of this institution. The number of students is increasing year by year, and those who apply for admission are more anxious than ever for instruction along agricultural lines.

They are beginning to appreciate the fact that if a farmer competes with educated men in other callings, he too must be educated in his work. These students are not only anxious for a college education, but they are also eager for the practical instruction that they can obtain at the College. The College offers to the farm students a regular four years' course leading to the degree of Bachelor of Agriculture. In this course the students get a good college education along with the instruction of agriculture and horticulture. In their freshman year they take also the cream of the mechanical course. For those students who have but little time and money to spend at the College, there is a two years' course, condensing the most important part of the four year's course into two years.

There is still another class of students in the State who can spend but a few weeks at college, and for their benefit the 10 weeks course was instituted. In this course the elementary subjects are taught, and the most practical lectures are given. In all of these courses practical work is an important feature. In addition to their practical work, students are given all the regular work possible in the barn and on the farm. Thus the student has been kept in touch the farm while getting his college education, and in years to come the result will far surpass the highest expectations of the founders of the institution.

The State has been much benefited by experiment station work. This is not so apparent in individual cases, but taking it over the whole State, for many years, the work shows for itself. It seems a small matter to some to teach a farmer to raise five bushels of corn to an acre more than he formerly did; to teach him to grow a few more bushels of potatoes, or how to raise hogs for home use. Individually this would seem of but little benefit, but in the aggregate, with the large number that are influenced over the State to do these things, the extra profit soon mounts up to hundreds of thousands of dollars. Then again, it should be borne in mind that when one farmer gets help or instruction, from the experiment station, he acts as a kind of reflector, giving off this light in his neighborhood.

The farmers' institutes, carried on by the State Department of Agriculture in connection with the Professors of the College of Agriculture, have been of untold benefit. The very fact of getting the farmers together in different sections, and encouraging them to talk over their best methods, and to write papers on leading agricultural topics, discussing ways and means of improving their farm conditions, and farm life, must of necessity be of great advantage. The usual order of procedure is as follows: Advertising the meeting and getting a crowd together, the election of a chairman and secretary, appointing a committee on programmes, and then the discussion of topics, reading of papers, and answering of questions. The meeting usually lasts about two days, with both night and day sessions. Women are invited and one or two of the sessions are set aside for the discussion of subjects in which they are particularly interested. The farmers often form a permanent organization at the close of the meeting.

HAVE A SPECIALTY.

I wish to urge upon my farmer friends to make a specialty of something. Get interested in some particular crop or kind of stock or breed of poultry. Get enthusiastic and make a success of something. Many in our neighborhood make a specialty of cabbage, and some have made lots of money growing it. One man cleared over $1,000 from a few acres last fall. He at once built himself a new house.

Our specialty is poultry, Buff Plymouth Rocks, and I can see how in many ways that it pays to make a special of something. We are making a reputation for our poultry that is far-reaching, and it brings good returns to the person who takes pains and tries to grow or make something a little better than any one else can. Therefore, I repeat: Have a specialty —E. E. Lawrence, Onondaga, N. Y.

Farmers should build factories. The cotton and cotton seed of this county are worth a million dollars. All this could be kept at home to improve the farms and build up the county if used here in factories. Not a dollar should be allowed to leave the county in the shape of the raw material.—Gen. Wm. R. Cox, Edgecombe Co., N. C.

FROM A GUILFORD TRUCKER.

He Discusses the Velvet Bean, Lettuce Growing, and Hay Raising.

Correspondence of The Progressive Farmer.

My trial with the velvet bean pleased me very much and I think it a good thing for stock feed and land improving. It is true the bean did not ripen for me under such treatment as I gave them, and also think if they are properly forced they may be brought to maturity. Expect to try them again. My first trial in growing rice was a failure, but when I learned more about the habit of rice, I learned to grow it. The first test on celery was a success and yet there is much for me to learn in growing and the management of celery. It takes several trials to become acquainted with the growth of any plant.

One of my neighbors, Mr. Phoenix, sells his lettuce at ten cents per head or a dollar per dozen and says it does not pay to grow it. This, of course, is winter-grown and large white heads. It takes much care and attention. I did not know until of late that lettuce could be grown to such large white heads like cabbage. But I do think some of our good farmers can prepare a place and grow such lettuce at a good profit at five cents per head and make more money than they can on ten cent cotton. Most of your work and care would be in fall and winter after all farm work is done.

But what about a market? Lettuce such as is described above will bear shipping to a good market. Sow the seed in August or the early days of September and then the plants will be ready for re-setting in your forcing place, so they will be ready in January and February.

As the subject of Bermuda grass is claiming some attention, will give some few suggestions to others for thought. The time to kill it out where it is in a broad area is frequent plowing in July and August, when land is dry and heat of sun is great. Bermuda grass is fond of rich land and plenty of manure. My plan is to kill all out as soon as I can. There are other grasses that I consider far superior in beauty and value. The blue grass, herds, timothy, orchard or any natural grass is far more preferable.

We have fine lands in North Carolina to make all the hay that our stock can consume. When some men fail the cause must fail, they are apt to shift the real cause from their own shoulders. Clover, alfalfa or lucerne, pea vines and the long list of grasses—some of these will grow on any land in this State. So we may have hay to sell and keep if we know how to care for them. North Carolina will never come to her full value until she takes the lead in the grasses. When our lands are covered in the rich grasses, then we can live at home.

R. R. MOORE.

Guilford Co., N. C.

A THINKING FARMER'S SUGGESTIONS.

The following sensible letter was written by Mr. H. B. Hillyer for the Texas Farm Journal, and we commend it to Progressive Farmer readers. There's one fact especially to which he calls attention that ought to be carefully considered—that "it is not the maturing of the grain but of the whole plant that exhausts the soil." Mr. Hillyer says:

In these days of close competition, low prices and small profits, the farmer must keep abreast with the times, become a skilled laborer, put brains into his work, and use every means possible to cheapen the cost of production, thus giving him a fair profit on his labor and capital. There are matters demanding our most earnest consideration. All useful knowledge comes to us by our own experience, by observation, or reading of books and papers, for thereby we can obtain the life-time experience of practical men, adopt them as our own, put them in practice and improve upon them. The farmer is too prone to believe he knows it all and thus despise what he is pleased to term "book farming."

I met a very clever farmer not long since and he told me he had been raised on the farm, and could make as good corn and cotton as any one. I asked him how much corn and cotton he raised per acre the past season. He told me 30 bushels of corn and half a bale of cotton per acre. This was very good, but I pointed him to some of his neighbors, upon no better land, who had made one bale of cotton per acre and 50 bushels of corn; evidently they were better farmers than he was. Again I asked him how many ears of his corn it took to shell a bushel. He said about 120 on an average. Of my corn that year 80 ears shelled a bushel, but I have seen corn of which 32 ears would shell a bushel.

It is not the maturing of the grain that exhausts the soil, but the whole plant, and it is evident that the same soil and cultivation would grow the small ears or the large ones, while the large ears would more than double the crop. So in cotton a man who grows one bale per acre makes nearly double the profit of the man who grows half a bale; moreover, the man can gather in a day twice as much of large corn or cotton as he can of small stuff.

Now it has been a rule of my life that whon I found a man in my line of business more successful than I was, I would sit at his feet and learn of him. A man who knows it all will not be an apt pupil.

Again, two farmers start in life on about equal conditions. One stays poor, the other gradually acquires wealth. Why so? Not by doing more work, but better work, using more sagacity in his work, better business methods, and practicing a stricter economy. Now, there is an economy that works loss, such as poor, weak teams, insufficient feed, poor farm implements, and worst of all, poor farm seeds.

A man with a good, strong, well-fed team and cultivators and other improved farm tools can cultivate twice as much land as his neighbor with a pair of small, half-fed ponies and old-fashioned plows. Hundreds of thousands of dollars' worth of farm implements go to waste every year for want of shelters that a little ingenuity and labor could make out of corn cobs, hay or sorghum.

Thousands of hogs are butchered every year whose weight are 150 to 200 pounds that with the same feed and care could have produced 350 to 400 pounds of meat. Milch cows are kept and fed that never pay for their feed. Twenty dollar scrub colts are raised when the same expense would have grown $100 horses. And thus we see throughout our farm life innumerable possibilities lost sight of or overlooked, and by-products left to go to waste.

There is no reason why a farmer should work fourteen to sixteen hours a day while the artisan or mechanic works only eight or nine. Improved farm methods, with ten

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