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THE PROGRESSIVE FARMER is the Official Organ of the North Carolina Farmers' State Alliance.

PRACTICAL FARM NOTES.

Written for The Progressive Farmer by the Editors and Guy E. Mitchell.

Hamlin Garland's story, "Spoils of Office," published in 1892, by the Arena Company, has an interesting word picture of a Grange picnic This book, by the way, which does not picture conditions as accurately as it seemed to picture them when it was published, still has lessons for thoughtful people. Following is a paragraph from the chapter entitled "The Grange Picnic"—the closing sentences of Ida Wilbur's speech.

"I have a dream of what is coming: * * * I see a time when the farmer will not need to live in a cabin on a lonely farm. I see the farmers coming together in groups. I see them with time to read, and time to visit with their fellows. I see them enjoying lectures in beautiful halls, erected in every village. I see them gather like the Salons of old upon the green in the evening to sing and dance. I see cities rising near them with schools, and churches, and concert halls, and theatres. I see the day when the farmer will no longer be a drudge and his wife a bond slave, but happy men and women who will go singing to their pleasant tasks upon their fruitful farms * * * When the boys and girls will not go West nor to the city; when life will be worth living. In that day the moon will be brighter and the stars more glad, and pleasure, and poetry, and love of life come back to the man who tills the soil."

Mr. Henry Stewart, of Highlands, Macon county, North Carolina, writing to Mr. M. V. Richards, land and industrial agent of the Southern Railway, concerning sheep raising in Western North Carolina, says:

"This mountain region is the most favorable locality for various reasons, as the cheapness of lands, the larger tracts that might be procured, and the excellent growth of grass possible, as well as the most abundant supply of the purest water. Near here there is an enormous quantity of unleached land, held in large tracts, that may be procured for very low prices, varying from $1 to $10 an acre, on which the timber standing is worth all the money.

"These lands afford a vast quantity of the best feed for sheep, while the climate is well fitted for the summer pasturage and rearing of lambs. So far during twelve years' residence in this locality, I have not seen a winter in which sheep have needed more than an aggregate of ten days' hand feeding. Up to March 1 my sheep last winter did not cost me ten cents each, and I fed a little grain on account of the lambs, some of which were two months old. The whole country traversed by the Southern Railway is equally well adapted for sheep to be kept in smaller tracts on the farms, which may be procured for a fourth of the price of those in the North."

The problem of raising tea in the southern part of the United States has been discussed for many years.

The growing of tea on the Pinehurst estate at Summerville, S. C, began about ten years ago, and the crop for the season of 1899 amounted to nearly 3,000 pounds.

A report on the results of the experiment at Pinehurst has been prepared by Dr. Charles U. Shepard, special agent in charge of tea culture investigations and will soon be issued by the U. S. Department of Agriculture as Report 61, entitled, "Tea Culture: The Experiment in South Carolina."

The report states that, from the results obtained on the Pinehurst plantation it seems probable that the cultivation of tea can be made profitable in the warmer portions of the United States in two ways. One is by establishing a plantation on the scale of the experiment at Summerville, with capital sufficient to carry the work to a point where the product can be offered on equal terms with tea holding an established place in the markets of the United States. The other is to grow tea for home use in the farm garden. In either case tea growing can be undertaken safely only where the temperature rarely goes below zero, and where a liberal supply of water can be depended upon. There is probably no place in the United States where the rainfall is sufficient for the best results with the tea plant, and irrigation should, where possible, be provided for in growing tea. The Summerville experiment was begun on a small scale, but the planting has been gradually increased until now over 50 acres are planted in tea. When the plants arrive at full bearing, the yield should be at least 10,000 pounds.

The problem of providing labor for plucking tea leaf has been solved so far as a steady and skilful band of nimble fingered children goes; but its cost is inordinately high as compared with the Orient. It was indispensable to secure a reliable corps of pickers To meet this condition a comfortable school house was built and a competent teacher engaged. The colored families of the neighborhood were then invited to send their children to the school free of charge. They would be taught the ordinary branches, and also would be taught to pick tea, and so earn money to buy food and clothing. The offer was accepted, and now there is a good list of pupils to draw from.

The report also describes the buildings and machinery used in making the tea, and points out the most important difficulties which confront the establishment of this new industry in the Southern States.

It will contain 9 plates and 4 text figures.

There seems to be a feeling of dissatisfaction in regard to the cotton growing industry. This may well be as we see cause for it. The Cotton Growers' Convention, Fair week, expressed this, but it did not seem to get far beyond such expression. The committee of nine may evolve something, and we hope they will. But what can be hoped from storing cotton but a temporary higher price by thus taking advantage of the rise consequent on the shortness of the crop?

Will not trying to do more, and to control the crop as was proposed, be actually an adoption of trust methods which most farmers and cotton growers condemn?

Will not a general effort in this direction result disastrously in long continued holding by adding interest and storage charges until it may have been better for the grower not to have held it at all?

We are convinced that a high price this year accompanied by a determination to hold will secure the planting of a very large crop next year. Do you agree with us in this? If so, let us hear from you, and if not, tell us why it will not. We wish to know.

We have proposed a *Farmers' Co operative Factory* FOR WAKE COUNTY. Why should not this factory be built, equipped, and started to work in 1900? Can Wake county farmers count on another fair price for cotton in the next decade without this factory?

What can they count on for their cotton with the factory? We will try to answer the last query in a general way, briefly. We leave to others to discuss the per cent. of profit in cotton factories. They are handsome profits and you may, if you will, add the manufacturers' profit to the price you will be able to get on the market for your lint. This you can do BY STARTING THE COTTON FACTORY, AND in no other way we can conceive will you be able to do it, or to do half as well as by the factory plan. By this plan you put into operation the progressive co-operation principle which has been so potent for good in other places and industries. You withdraw from the false position of condemning trusts while putting one in operation. You will become an active corporation helping to make others prosper with yourselves, whereas the holding stored cotton and attempting to control crops and prices is of another class of actions which are not only negative in their character, but undesirable to be connected with.

HOW THE FACTORY MAY BE STARTED.

Let as many farmers as can and will take advantage of this opportunity. When they sell cotton put what they receive above six cents per pound in The Raleigh Savings Bank to their own account for stock in the mill. Let this be generally known that the fund has begun to accumulate. This knowledge will increase the fund and if you come in and deposit for this purpose openly, others will do so and it will accelerate the movement toward the factory. Have a meeting of depositors called for some date in the winter. Many of you will have money on interest in the bank, while others who hold cotton longer will have it in storage ready to apply the top of the price to their subscribed stock when they sell.

You can calculate how much cotton factory stock you can pay for individually by giving in five per cent. of your crop each year. Reckon stock at $10 per share. Then you can turn your share of income from the factory toward paying for more stock if you like, but count now on what you have to bank in cotton crops. Five per cent. of the crop at five cents per pound for five years will be a moderate amount which can be spared. Pledge this amount, and more if you can.

Then organize your co-operative company. Elect the best business men you have in it to directorships. The business will then be in their hands and you have individually only to look out to meet your individual obligations.

Three hundred farmers with a strong organization and an average subscription of 10 shares of $10 each will give $30,000.

The directors can then raise cash by giving bonds payable in installments and covering a period of years and begin to build the factory. The earnest active support which three hundred interested men can give will hurry the erection and starting of the mill and your cotton in 1900 should go into your own mill.

We trust the farmers of Wake county will try this, and believe it will solve the problem for all those who take part in it, and if for them for others by similar co operation, and there will be no blocking trade or trust organization among farmers to accomplish the solution of the price of cotton by this plan. We speak especially to Wake farmers. If they succeed, the movement will spread to other counties. F. E E

FARM AFFAIRS.

THE BLACK RIVER SECTION OF NORTH CAROLINA.

A Great Farming Region of Which the Outside World Has Heard Little.

Correspondence of the Progressive Farmer.

Whilst the newspapers are discussing the advantages and productiveness of Porto Rico, Cuba and the Philippine Islands, they overlook the greater advantages of soil, climate, society and everything desirable for a home that lie right here at our own doors.

We have the trucking lands superior to those around Norfolk and Portsmouth, Va., adapted to the growth of every kind of marketable vegetables and fruit. We have good black river bottoms that produce the finest corn, sugar cane, rice, pumpkins and whatever else usually grows on low lands. Then adjoining these are healthy sand hills on which can be grown corn, potatoes, peas, melons, bright leaf tobacco and early truck of every kind.

I have lived in every section of North Carolina, from Elizabeth City to the foot of the Balsam Mountains, but no where have I found a more desirable country for the establishment of a permanent year round residence.

Our climate in winter is so mild that sheep and cattle remain out in the fields or the woods all winter, and in summer it is not so warm as in Raleigh. Even during the past winter, while in other sections the thermometer was many degrees below zero, our sheep and lambs were taking care of themselves in the field. Yet strange to say this section of North Carolina is scarcely known of outside of its own borders. While it is the healthiest region I have ever lived in, the people of Piedmont North Carolina imagine that the whole country is infested with malaria.

Our drinking water is cool and purer than that of Hillsboro or Pittsboro, and yet some people believe that because huckleberries grow wild in Sampson, the whole county is one continuous stretch of miasmatic swamp. Never was a greater mistake.

I moved my family from Raleigh to lower Sampson in the month of July, 1896. We have been living at the same place, in Franklin township, ever since, and none of us have had a chill or a case of malarial fever. There has never been a case contracted on the place, and yet my farm extends to within 100 yards of Black River, and there has been a mill pond on the place only 75 yards of the house. Just here and on each side of Black River, there are high sand hills covered with long leaf pines and a climate as good as that about Southern Pines or Pinehurst, with rich bottom lands contiguous, that produce corn, Louisiana sugar cane, wheat, oats, rice, cotton or any other staple crop a man needs to make.

Recent experiments have proven that the sand hills of Sampson and Duplin counties produce as fine bright leaf tobacco as the golden belt of Granville, Warren and Vance, and the cost of cultivation is not more than half as great. A farmer living near the railroad can have as many as 15 different money crops a year if he engages in trucking, and then make his own supplies of corn, beef, mutton, pork, &c, at home.

Scuppernong and other grapes, haws, dog-tongue vanilla, and various medicinal plants grow wild in the woods and we have bouquets of wild flowers in the vases from the time of the trailing arbutus till the vegetation is killed by the latest frosts. In spring the trees on the hills are festooned with yellow jessamine, and now hairbells, white and yellow daisies and a great variety of other wild flowers give the sand hills the appearance of cultivated flower gardens.

The more I see of this section of our State the more I wonder that so little is known of it abroad or even among our own people in other sections of the State. Those who have lived here all their lives do not appreciate its advantages and capabilities as they should. No one has ever written about it in the large editions of our daily and weekly newspapers. A traveller on the railroads sees nothing of it. He notes the absence of towns and factories at the stations between Fayetteville and Wilmington, and long stretches of piney woods, wire grass, white sand extend between the stations; but he learns nothing of the fertile lands and beautiful hills and vales that lie along the streams on each side of the railroad. How can he, when no one tells him of them? N. B. COBB

Cottage Hill Farm, Sampson Co., N. C.

According to the New York World, this country's grain crop of 1899 promises to be one of the greatest on record. At the same time the shortages in other grain producing countries promise higher prices for our surplus than have been known for years. These are factors of national wealth that nothing can disturb. They mean money in the pockets of the people, and as prices are high they mean a vast deal of money to be spent in vivifying trade from top to bottom.

NITROGEN AND POTASH IN FERTILIZERS

The marked effect on the growth of the wheat plant, which is usually observed after the application of fertilizers carrying soluble phosphoric acid, such as acid phosphate or dissolved bone black, together with the low price at which plain acid phosphates can be bought, as compared with fertilizers containing nitrogen and potash, have led many farmers to the use of this material alone, believing that they can supply sufficient nitrogen by growing clover, and that potash is not needed. On these points the field tests of the Ohio Experiment Station are beginning to offer useful suggestions.

Since 1893 the station has conducted two series of experiments on the light, somewhat sandy clay soil of its central farm at Wooster, in which fertilizers of various composition have been used on crops grown in rotation, the rotation consisting in the one series of corn, oats and wheat, one year each, followed by clover and timothy, two years, and in the other of potatoes, wheat and clover, one year each. Since 1896 both these tests have been duplicated on the heavy, white clay of the Northeastern Substation in Cuyahoga county.

In all these tests every third plot, beginning with No. 1, is left continuously unfertilized, and the increase from fertilizers is calculated by comparing the yield of the fertilized plot with that of the two unfertilized plots between which it lies. The plots contain one-tenth acre each, except in the short rotation at the Substation, where they are half that size.

In these tests Plot No. 2 receives, during the course of each rotation, plain acid phosphate at the rate of 320 pounds per acre, half of which is given to the wheat crop, while Plot 30 in the long rotation, or Plot 33 in the short one, receives instead a mixture of 200 pounds acid phosphate, 200 pounds untreated slaughterhouse tankage and 20 pounds muriate of potash—420 pounds per acre in all—half the fertilizer in this case also being applied to the wheat crop. The wheat crop grown on Plat 2 receives 160 pounds of plain acid phosphate per acre, and that grown on 30 or 33 receives 210 pounds of the mixture of acid phosphate, tankage and muriate of potash per acre, while previous crops in the rotation have had like quantities.

The harvest of 1899 gives the sixth crop grown in the long rotation and the third in the short rotation at Wooster, and the third in both rotations at Strongville. Following are the average results:

	Bushels of Increase per Acre.	
	Plot 2	Plot 30 or 33
Central Station—		
Long rotation....	3 60	5 38
Short "	2.20	9.91
Substation—		
Long rotation...	7 50	11 20
Short " ...	12 37	16 32

It will be observed that in every case the substitution of tankage for part of the acid phosphate has produced a large gain in the increase of crop, the average for the fifteen crops of wheat being 5 86 bushels per acre on Plot 2 and 9 64 bushels on Plot 30 or 33, a gain of 3.78 bushels for the complete fertilizer over the acid phosphate alone.

At $15 per ton for acid phosphate, $19 for tankage and 2½ cents per pound for muriate of potash, these being the prices actually paid for the fertilizers used in these experiments, including freight, the cost of the application to Plot 2 would be $1 20 per acre, and of that of Plot 30 or 33, $1 85 For 65 cents additional cost, therefore, we have reaped in the average 3 78 bushels increase of crop. This, however, is only part of the gain, as the corn and oats crops, preceding the wheat, are showing a large gain in favor of the complete fertilizer, as do also the hay crops following.

It appears, therefore, that the clover is not furnishing sufficient nitrogen to meet the demands of a fall crop, and that it is more economical to use a fertilizer containing a small percentage of nitrogen (ammonia) even though the cost be somewhat increased, than to use one which carries only phosphoric acid.

This is what is said by a dealer who has had many years of experience at one of the greatest horse markets of the country. "Never in the history of horse raising was there a wider difference between plugs and good horses. Farmers must give as much thought to the selection of both dam and sire as they do to the breeding of cattle and other live stock. A coach horse that will bring $300 is as easily raised as a plug that will bring but $45. Such a horse is useful on the farm until the time when he is ready for the market, and can be used both to the plow and on the wagon. In case he lacks the style or action necessary to bring a fancy price, he is still a general purpose horse and will bring a price that will be profitable to the raiser."

For its practical value and as a means of education in the fundamental processes of observing and thinking, no work done in the country school is superior to the accurate systematic study of the weather and its effects on vegetable and animal life, and through these, on human industries. The child should be taught the use of the barometer, maximum and minimum thermometers, and the rain guage. He should learn to read the reports and forecasts of the Weather Bureau, and be made familar with the principles on which the forecasts are made. He should also be shown how to use the tables of comparative temperature, moisture, etc. The farmer is more closely related to the weather than any other natural phenomenon, and the result of his labors depends more directly upon the weather than upon anything else, the character of the soil not excepted.—N. C. Journal of Education.

HORTICULTURE

CULTIVATION OF TOMATOES.

Correspondence of the Progressive Farmer.

Tomato growing is one of the most pleasant and profitable industries for the farmer and market gardener. The fruit can be used in many ways for household necessities, and where a market is near is good money in marketing. Under ordinary circumstances an acre will produce 200 to 500 bushels of first class fruits. If this be sold in crates of three-fourths of a bushel each, the crop will bring $250 to $500, per acre. In some localities the price seldom drops below five cents a pound, but as a general rule choice tomatoes will command at least two cents throughout the season.

The tomato may be grown on any average soil, but will yield more satisfactory returns from a light sandy loam, with warm exposure. If the land is too rich from barnyard manure, the vines will probably be too rank and fruits not ripen. Tomatoes require considerable nitrogen, and must have suitable fertilizers containing this element of plant food. If the ground is well prepared and about half a ton of fertilizer containing a proportion of available phosphoric acid 7 per cent, potash 6 and nitrogen 4, the plant foods will be all that the crop requires.

There are many varieties possessing differing degrees of merit, but, as a rule, the Stone will give entire satisfaction as a hard, long shipper. The Canada Victor is a fine, solid tomato, desirable for shipping or canning. Among the large varieties the Imperial is one of the best. The old timers such as Acme, Beauty and Perfection each have good qualities, and are always in demand. It is well for the grower to study the conditions of soil, climate and market facilities, before selecting seed, then secure several seed catalogues and read up the characteristics of each variety before deciding what to plant

Seed should be obtained fresh every year from reliable growers. If early tomatoes are wanted, and they are the most profitable,—the seed may be started in boxes in the house, or hot beds out of doors. For late plants the best plan is to burn a brush heap, in some fair spot, rake off the trash, and dig in the ashes, while warm, and sow the seed broadcast. After raking in and firming the surface with a shovel, place a good covering of fine brush over the bed and leave until all danger of frost is over. These plants will be hardy.

Transplanting is best done while the plants are small, only four leaves showing. A dibble, or sharpened peg about ten inches long, in the shape of a carrot, is the best tool for this work. Where the land is irrigated, ditches should be filled with water until the soil is wet and the plants put in during the afternoon. If the furrows run north and south and the plants are set on the west side, the beds will hold moisture longer and a stand is easier secured. For general cultivation with a plow the furrows should be at least three feet apart and plants set three feet in the rows. If only a small patch is desired, and land cultivation is the method, the vines may stand two feet either way.

Thorough cultivation is necessary for success in tomato culture. When the plants reach one foot they should be trellised, if that plan is desired. Some use poles, tying the vines up, others have frames and some use wire poultry netting. As a general rule the vines will do as well without trellises, if topped when about two feet high. This is done by clipping back all the shoots with sharp shears. If the blight or black rot appears the vines demand thorough watering, which in most cases will destroy the causes of disease. When the vines become a very dark green they must have water to make the fruits set.

Picking is best done in the morning after the vines are dry. All fruits showing even the slightest color should be picked and placed in dark boxes to ripen. The most successful gardeners pick the fruits as soon as the under side gets white, and store in boxes to ripen. This insures a more uniform color and enables the grower to market in large quantities. For home use the solid, half ripe specimens are the best, if put in large five gallon tin cans and sealed, instead of using the smaller bottles. JOEL SHOMAKER.

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