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

Vol. 14. RALEIGH, N. C., MAY 16, 1899. No. 14

PUBLISHED WEEKLY

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

"I am standing now just behind the curtain, and in full glow of the coming sunset. Behind me are the shadows on the track, before me lies the dark valley and the river. When I mingle with its dark waters I want to cast one lingering look upon a country whose government is of the people, for the people, and by the people."—L. L. Polk, July 5th, 1890.

PRACTICAL FARM NOTES.

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

The American goldfinch or wild canary is as beautiful as it is useful, and as a weed destroyer has few equals. It confines its attention very largely to one family of plants, the Compositae, and is especially fond of wild lettuce, thistles, wild sunflower and rag weed. It is so often seen gracefully poised upon thistles that it is commonly called the thistle bird. It is also very fond of cultivated sunflower seeds.

The forest area of American British possessions it estimated at about 800 million acres. The settler has cut his way into the fringe of this vast wood land, but his depredations are nothing as compared with the terrific scourge of fire which has rampaged through it at different times. The United States has about 450 million acres of forest and this is being rapidly depleted by the axe and also by destructive fires, which the government, however, is now investigating means to prevent or control.

Beet pulp has been fed to dairy cattle in California for many years with satisfactory results. Reports from Pecos Valley, N. M., show the satisfactory feeding of large numbers of sheep and a good demand for pulp. In visiting the best sugar farms of Europe, says the assistant chemist of the Agricultural Department, an excellent condition among the beef and dairy cattle is quite noticeable. This desirable result is in a large measure traceable to the feeding of beet pulp from the sugar factories. In addition to the pulp, a small proportion of molasses is also fed.

A French economic ornithologist states it as his belief, resulting from his investigations, that if the world were to become birdless, man could not inhabit it after nine years' time, in spite of all the sprays and poisons that could be manufactured for the destruction of insects. He shows that birds eat hundreds of millions of insects daily, which cannot be doubted when stomach examinations show that all the insect eating birds are continually destroying large numbers of insects, most of them harmful to agriculture. Birds are more the farmer's friend than he realizes. Impress this fact upon your boy.

Those interested in sorghum growing should send to "U. S. Department of Agriculture, Washington, D. C.," for a free copy of Farmers' Bulletin, No. 90, "The manufacture of Sorghum Sirup." This is becoming a rather great industry.

In 1889, 11 States produced over a million gallons of sorghum sirup each. It was produced in greater or less quantities in 44 States and Territories. Missouri, Tennessee, Kentucky, Arkansas, Texas, Kansas, Iowa, Georgia, North Carolina, Alabama, and Illinois, in the order given, produced the largest quantities, ranging from 2,721,240 gallons in Missouri to 1,110,183 gallons in Illinois. The report of the Kansas State Board of Agriculture shows that in 1890 that State produced 3 431 100 gallons sorghum sirup, not 1,484,937 gallons, as stated in the national census returns, thus placing Kansas easily first instead of fifth in sorghum sirup production.

One of the best bulletins yet issued by the North Carolina Experiment Station is "Farming in North Carolina," by Prof. W. F. Massey. A review of the work is unnecessary, as any of our readers can secure a copy free by addressing a postal card request for same to "Agricultural Experiment Station, Raleigh, N. C." We advise every farmer reader of this paper to send for a copy. By the way, when next you go to the postoffice, buy a supply of postal cards and do not let the supply become exhausted. Then when you see a reference to a bulletin or a manufacturer's catalogue which you need, send for it at once. Very often an advertiser in The Progressive Farmer offers a valuable catalogue free to all who apply, and a postal card request for same would in many instances save the reader a snug little sum.

The Horticulturist of the Virginia Experiment Station, Wm. B. Alwood, states that from his experience it appears to be a simple matter for any intelligent farmer to grow forest trees seedlings either for decorative planting or for wind breaks and forest belts. All such seeds as silver maple and like early ripening species, it is necessary to sow as soon as ripe. They can be sown in the same manner and will grow as readily as peas. All late ripening species should be sown in the fall. Walnuts can be bulked down, several bushels in a heap, and then taken up and planted in the spring with perfect success. Also a simple plan with these species is to plant the nuts where the trees are to stand. If no stock interferes they will grow with great certainty, and in rich soil so rapidly as to astonish one unfamiliar with the culture of forest trees. Most of the forest trees do best if set out at 5 to 8 feet tall; hence many should stand but one year in the nursery row.

In 1898, co operative experiments were made with velvet beans for the Alabama Station by farmers in 14 localities in that State. In reporting results the great majority of experimenters reported a more luxuriant growth made by velvet beans than by cowpeas. Almost invariably the yield of hay as judged by the eye was estimated as much greater than the yield of cow pea hay. However, it is easy to over estimate the yield of velvet bean hay, for the growing vines present an imposing appearance and the hay is loose and bulky. Summing up, the Alabama Station says:

"Giving due weight to these reports of results based merely on appearance and to our accurate expesiments at Auburn, where the product of large plots was weighed, it appears probable that on good land the cow pea and velvet bean afford practically equal yields of hay, while on poor, deep sandy land the velvet bean may afford a larger yield."

At the station the yield of sorghum and oats after a crop of velvet beans was larger than after a crop of cow peas. In oat straw, however, the reverse was true.

The Illinois Station has been recording the variations of different cows and of the same cow at different times, in the quantity and quality of the milk produced, and these records demonstrate the following truths:

The yield of milk from different cows under the same conditions differs greatly, and that from the same cow varies widely from day to day.

The composition of milk is highly variable; the ratio of fat to other solids, and that of solids to water, are not constant as between different cows or for the same cow on successive days.

The percentage of fat, or of other solids, is not always highest in the smaller yields, but cows that give milk with a high per cent. of solids generally show a low total yield.

Fat is the most variable constituent of milk, and its variations are dependent of those of the other solids; therefore the yield of milk is a better index of the other solids than it is of the fat.

As regards the first and last milk drawn, the proportion of solids not fat is higher in the first, but the proportion of fat is decidedly greater in the last.

When the milking periods are unequal the longer period will generally, though not always, give the larger yield of milk, of fat, and of solids not fat; but the difference in yield does not correspond to the difference in time; that is, the secretion calculated perhour is greater during the shorter period.

Neither day time nor night time is shown to be superior as a milk producing period.

Another report to Congress is about to be made from the Agricultural Department upon the development of the beet sugar industry in the United States for the year. Mr. Charles F. Saylor, the author of a similar report for last year, has been preparing it, and has incorporated into it an interesting account of sugar growing in Puerto Rico and other notes on the agriculture of the island. Mr. Saylor describes the methods of the natives as the most primitive imaginable, with consequently a minimum of results. All field work is performed by oxen, though ponies are used for riding. Instead of the ox yoke resting against the shoulder, it is fastened on the front of the head and attached to the horns and the ox propels the load by pushing it with his head. Mr. Saylor states that the native workman does not accomplish in a day more than one third as much work as a laborer in the United States. A great proportion of the natives, however, he finds living on 5 cents a day. In many cases they live entirely upon such a simple diet as raw sugar cane. Pure sugar is not an uncommon ration in many tropical countries. He figures in detail that sugar can be laid down in New York (duty free) at less than 2 cents a pound.

Slowly but surely the farmers are beginning to realize the advantages of mixing their own fertilizers. Of course not all farmers are prepared to do this, but any intelligent farmer who will carefully read Voorhees' Fertilizers" will promptly see the reason for home mixing, the way to do it, and the profit there is in it. The farmer who knows nothing of the ingredients of fertilizers is not better prepared to mix a fertilizer for weak and impoverished land than the man who knows nothing of pharmacy is to compound a medicine for a sick man. But where the pharmacist must learn of scores of ingredients before being prepared to compound a medicine for a sick man, the farmer who wishes to compound a fertilizer for a sick soil needs to know the character and nature of but three elements—potash, phosphorus, and nitrogen. Thus his task is a very easy one.

It requires no college training, but merely the ability to read intelligently. This being the case, brother farmer, why not mix your own fertilizers and keep at home the tribute money you have been paying to enrich fertilizer compounders and their agents? Referring to this matter of home mixing, the bulletin, 'Farming in North Carolina," to which we have just alluded, says:

"Fertilizing matters being a necessity in the recuperation of the soil, their making is a matter of much importance, and the farmer should know just what he is using and no longer buy his fertilizers on "the patent medicine plan." By buying the materials and mixing them at home in the proportions he needs, he can always be sure of having what he wants and of getting it at a much lower rate than the same value could be had from the manufacturers. Some shorteighted fertilizer manufacturers are trying to prevent the farmers from getting the chemicals and doing their own mixing. But they are working against their own interest in this, for the home mixing of fertilizers is going to be the rule in the future, and the sooner the fertilizer men realize it and put all the facilities in the way of the farmer's getting what he wants the more they can make by sales of these things. It has been abundantly proved at more than one station that home mixed fertilizers give just as good results as the same grade of factory mixed goods and cost far less."

PINE RIDGE, N. C.

EDS. PROGRESSIVE FARMER:—Find enclosed $1, for which please move up my subscription one year. I would order it to stop, but your paper gets better and better. I don't see how a farmer can afford to be without it.

R. W. BOYLES.

AGRICULTURE.

PEANUT CULTURE.

Correspondence of the Progressive Farmer.

The peanut crop is yearly becoming of greater importance to the Southern farmer. It is a crop that is peculiarly suited to the warm climates, and being a short season crop, it need not be planted until the soil is thoroughly warmed up, about the middle of May, or even early June is time enough to plant. I have known a very good crop made, planted as late as the first week in July. Another point in its favor is that it can be planted after the rush of spring planting is over and the most of the other farm crops are laid by. A good plan is to follow the oat or wheat crop with peanuts immediately after these are harvested. Oat and wheat stubble plowed under seems to have something in its get up favorable for the peanut crop, and I have never seen a poor crop of peanuts where it followed these small grain crops, providing the land was properly prepared and the correct fertilizers used.

A sandy soil with some lime in its get up is specially advisable to secure a good crop. The land must be thoroughly plowed and broken up, to let in warm air and sunshine, and put in as friable a condition as possible. It should be smoothed well over with a harrow, and at the last harrowing or working about 800 pounds per acre of a good fertilizer broadcasted and worked into the soil. This fertilizer should be of a very good grade, analyzing about eight per cent. of phosphoric acid, and eight per cent. of potash. Some farmers prefer to drill in the fertilizer at planting time, but this is not to be recommended as the skin of the peanut is so thin and delicate, that a strong fertilizer in the drill next to it, would be apt to impair its germinating powers, so that to get best results and get a good stand, the fertilizer should be applied in the manner already indicated and three or four weeks before planting time. When ready to plant lay off the land in furrows about thirty inches each way, checking it, so as to be easy of cultivation when the time comes for subduing the grass and weeds that are sure to come. In each check a couple of seeds should be dropped and covered a couple of inches deep with the foot, and pressed down. Then in a few days the whole ground should be again harrowed and smoothed off obliterating these furrow marks.

In about ten days from planting time, they should be showing above ground, and being at a time of the year when weeds and grass are likely to be troublesome, the cultivator and sweep must be kept busy to keep down weeds and pulverize the soil, for weeds, grass, and peanuts don't grow well together.

If the ground has been put in good condition, previous to planting, the crop will not require much cultivation during the growing period, and whenever the blossoms begin falling, all cultivation should cease, and the last should be of a nature to throw as much soil on the vine as possible, thus assisting nature in burying joints on which pods form.

Whenever the vines begin to take on a yellowish tint, the nuts are full grown and are beginning to ripen. If the crop is intended to be saved and houses or stacked, it should then be dug up and thrown in windrows for a few days to get dry enough to shake all the sand off, then hauled to the barn and thrown over racks to cure thoroughly. If intended for hog feed, the pigs can be turned in and allowed to do their own harvesting. Take it all in all a crop of peanuts is to be specially recommended, as it is a very profitable one. Fifty bushels per acre is a very ordinary yield, and when we consider its fattening properties and the love all stock has for it as food, we should make it a point to grow as large an acreage of it as we possibly can.

C. K. MCQUARRIE.

PLANT PUMPKINS.

For milch cows, whilst they are undergoing the change from pasture to dry feed, there are few, if any, kinds of food that will keep them to their milk as well as pumpkins. They are splendid for calves going into winter quarters, and make an excellent and healthful food to give with corn to fat ten pigs. In moist situations, such as river low grounds, a great abundance of pumpkins can be grown along with the corn. For quite a few years we have grown pumpkins this way! Enough seed is mixed with the corn so that one will be dropped to every five or six hills. The corn is in no way damaged by the pumpkins—rather benefited, as their umbageous leaves keep the sun from striking the ground, and also, to a large extent, shade out weeds which, on river low grounds, make considerable growth after the corn has been cultivated the last time, when the season is favorable. The only cost is that of drawing and storing in the buildings.

The Virginia Mammoth does well when planted on bottom lands with corn. They are large, have thick, firm flesh, and do not rot readily.

Last year we had over fifty tons, which were stored in a building during the latter part of September before frost touched them. They were fed to cows, calves and pigs, and proved a ualuable adjunct to the ordinary foods. The cows and pigs received them till the middle of December and the calves till the 10th of February. A few were set aside to see how long they would keep, and only rotted about the first of March. Those stored until cold weather were well covered with straw.

We have been advised often to let pumpkins have one good frost on them before storing away, but I am confident they would not keep as well for it. I noticed some that got touched with frost during a cold spell in January became soft very soon after they thawed out.—Albert R Bellwood, in Southern Planter.

THE CORN CROP.

But it is not the hog alone that can make use of the corn crop when it is produced as it should be, beyond the point of being mere "supplies." The whole State needs more and better beef, butter and milk. Here in Raleigh it is practically impossible to get a piece of beef fit to eat by anyone who knows what good beef is. Our people have been taught that beef can be made from feeding cotton seed meal and hulls. And so it can of a certain kind, but far from being good beef. It is rank and rammish in taste and smell, and not fit for a respectable table. When fed to dairy cows, the butter is made crumbly and white and is far from being "gilt edge." Cotton seed meal and hulls should be relegated to the compost pile. They make good manure, and the land needs them, and the farmer can grow better food for animals and food that will make eatable beef and butter.

And here is where the corn crop comes in again: In the feeding of beeves and cows the whole crop can be utilized at once by turning into ensilage. There are too few silos in the State, and too few good cattle to be fed from them. There is no way in which the corn crop can be more profitably used than by turning it into ensilage and feeding stock on this for beef and milk.

Years ago when I was filling silos in Virginia with corn that would make over 50 bushels per acre if left to ripen, a neighbor said it was a shame to waste such fine corn in such a way. I told him to figure a little. The 50 bushels of corn there would be worth as grain 40 cents per bushel or $20 per acre, and the fodder saved in the usual way by cutting it off at the ground and curing in shocks would perhaps, if saved, well be worth another ten dollars. In ensilage the crop made me twenty tons per acre. The feeding value of this ensilage was fully $3 per ton, and in some experiments I had made it was worth half as much as timothy hay for mules, and timothy hay was worth there then $10 per ton. But taking the lower figures the crop as ensilage was worth $75 against a possible value of $30 as grain and dried fodder. Not that the ensilaging added any food value to it, but it put it into a shape that made it more palatable and in which it was all saved and eaten, while there was a large waste in the ordinary saving of fodder and a loss in the eating, as cattle discarded the hard stalks which are all eaten as ensilage.

In all this I am going on the assumption that the grain raised on our farms is to be utilized on the place with the exception of the wheat, which must be manufactured elsewhere, and with the increased crops of this the mills will increase and add to the wealth of the State. But no raw product that can be utilized on the farm to make a more valuable product should ever be sold in a raw state We have never found any way in which the corn crop can be more profitably used on the farm than by making it into ensilage. Many have been deterred from attempting to make ensilage because they imagine that a very costly building is needed. The only requisite in a silo is that it should be as near air tight as possible at bottom and sides and freely open above.

The corn is cut into the silo when in the roasting ear state, and when the silo is full a cover of straw is put over it or a layer of cotton seed hulls to take the mold at the top and the whole thing is done. The corn can be stored dripping wet if need be or it can he left to wilt in the fields a day or so. The weather never need interfere with the work. Then too when the corn is cut and stored the land is ready and clear for the fall crop. Here at our college last season we had a crop of oats that were cut for hay. The land was then plowed and corn planted for ensilage. This corn was cut and stored and the land well prepared again and seeded down to grass, and to day there is not a finer piece of grass around the city on the land where a year ago the oats were growing and corn was afterwards raised. The cutting of corn at the ground is heavy work when done by hand, but we now have machines that cut and bind the stalks in bundles so that the hauling and handling are far easier. Of course it is not worth a man's time to build a silo if he has but a cow or two, but we are advocating the feeding of more and more stock as the very foundation of successful farming with any crops. We can here only give hints. But I shall have out from the press in a few days a bulletin on the improvement of our lands, and any farmer in the State can get a copy by sending a card for it, and can have his name entered for all we publish.—W. F. Massey, in Christian Advocate.

FARMERS' SONS AND THEIR READING.

This paper has urged the importance of making a study of the elementary principles of agriculture a part of the course of common school education in Texas, and so many thoughtful men are of the same opinion in this that only an organized expression is needed to secure this amendment to the school courses The matter will doubtless be presented to the proper authorities and the change effected within a reasonable time. It is certain that public sentiment among thoughtful farmers and others whose duties or business has them to consider the agricultural development of the State is ripe for the change.

But the farmer can at home do something that will go a long way in promoting the agricultural education of his boys, only commenced in the school. What to plant and when to plant are the first questions for the field. Breeding, feeding and management of live stock are becoming of more interest to farmers as attention is more directed to the live stock industry. In all these departments of agricultural work new thoughts evolved by discussion and the work of the experiment stations are continually appearing, and unless the farmer is a reader he will fall behind the front of his industry. Unless his son becomes a reader he will not be able to rightly understand the improvements needed to make his toil profitable and to preserve the fertility of his inheritance instead of wasting it.

Works on agriculture and journals treating of agricultural and live stock subjects are becoming every year more important in the farmer's home. They should be supplied for the young people and they could be encouraged to carefully read them. This will lead to thoughtful interest in all the departments of farm work, will tend to establish farmer's meetings, will give to the matters of daily employment an interest and dignity that will make farm life far more attractive than under former conditions when such a life was one of only monotonous, sordid toil.

It is worth while to make the life attractive and the toil remunerative. Much can be done in this way by encouraging the boy to keep up with the latest agricultural thought. The ablest minds of the country are giving their labors to agricultural science and contributing to its literature, and are having a practical effect upon the farm work of the country. Unless the boy reads he will be a century behind when he himself becomes the manager of the farm.—Texas Stock and Farm Journal.