"The Progressive Farmer is a good paper—far above the average—and possibly the best advertising medium in N. C." Printers' Ink.

THE PROGRESSIVE FARMER.

Has the largest circulation of any family agricultural or political paper published between Richmond and Atlanta

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

Vol. 13. RALEIGH, N. C., MARCH 29, 1898. No. 8

Agriculture

ALL AROUND THE FARM.

EDITED BY BENJ. IRBY, RALEIGH, N. C.

Prof. Benj. Irby, late Professor of Agriculture, Agricultural and Mechanical College, Raleigh, has become a regular contributor to this department. All questions relating to the farm, garden or orchard will be answered by Prof. Irby.

TESTS OF BROAD AND NARROW TIRES.

Correspondence of the Progressive Farmer.

The Missouri Station in a recent bulletin gives details and results of experiments at that station to test the relative merits of broad and narrow tires.

In order that these tests might cover every possible phase and condition of roads and fields, they extended over almost an entire year, and took in dirt, gravel and macadam roads, plowed fields, meadows and pastures, etc.

The draft was measured bp a Giddings self recording dynamometer. The narrow tires were an inch and a half wide and the wide ones were six inch cast steel wheels, which can now be bought about as cheap as the narrow wooden wheels with wrought iron tires. In every trial the load was the same—2,000 pounds. Following is a summary of results:

1. On macadam streets it was found that a load of 2,518 pounds could have been hauled as easily on the wide tires as 2,000 pounds on the narrow tires.

2. On a gravel road it was found that taking an average of dry, wet and sloppy, 2,182 pounds could be drawn on the wide tires with the same force required to draw 2,000 pounds on the narrow tires.

3. Tests on dirt roads involved many different conditions. (a) When dry, hard and free from ruts and dust, 2,530 pounds drew as easily on the broad tires as 2,000 on the narrow ones. (b) When the surface was covered with very deep, dry, loose dust the narrow tires drew more easily than the wide ones. (c) On a clay road, muddy and sticky on the surface, but firm underneath, the narrow tires drew more easily than the wide ones. (d) On clay road with deep mud, drying on top, or dry on top and spongy beneath, the wide tires carried 3,200 pounds with the same draft required to pull 2,000 pounds on the narrow tires. (e) Clay road, surface dry, with deep ruts cut by the narrow tires in the ordinary use of the road.

In every trial the first run of the broad tire over the narrow tire ruts has shown a materially increased draft when compared with that of the narrow tire run in its own rut. The second run of the broad tires in the same track where the rut is not deep completely elimated this disadvantage, and showed a lighter draft for the broad tire than the narrow tire showed in the first run. Where the ruts were eight inches deep with rigid walls, three runs of the broad tire in its own track over the ruts were required to eliminate the disadvantage. Three runs of the broad tire over this track have in all cases been sufficient, however, to so improve the road surface that both the broad and narrow tired wagons passed over this road with less draft than the narrow tires did in the original ruts. In addition to the saving of draft, the road was made very much more comfortable and pleasant for the users of light vehicles and pleasure carriages by the few runs of the six inch tire.

Summing up all the tests on dirt roads, it appears that there are but three conditions on which the broad tires drew heavier than the narrow tires, namely: (1) When the road is sloppy, muddy or sticky on the surface and firm or hard underneath; (2) when the surface is covered with a very deep, loose dust and hard underneath; (3) when the mud is very deep and so sticky that it adheres to the wheels of both kinds of wagons. It appears that the dust must be extraordinarily deep to show a higher draft for the broad than for the narrow tires. The three conditions just named, therefore, are somewhat unusual and of comparatively short duration. Through a majority of days in the year and at times when the dirt roads are most used and when their use is most imperative, the broad tired wagons pull materially lighter than the narrow tired wagons.

4. A large number of tests on meadows, pastures, stubble land, corn ground and plowed ground in every condition from dry, hard and firm to very wet and soft, show without a single exception a large difference in draft in favor of the broad tires. This difference ranged from 17 to 120 per cent.

5. It appears that six inches is the best width of tire for a combination farm and road wagon, and that both axles should be the same length, so that the front and hind wheels will run in the same track.

6. Narrow tires were much more destructive to all kinds of roads. Indeed, the wide tires improve most roads.

It is estimated that the public roads of the United States aggregate 1,500,000 miles in length. Conservative estimates place the total wagon transportation in the United States at approximately 500,000,000 tons. The average distance of haul is placed at eight miles, and the average cost of transporting one ton this distance is assumed to be $2, making the total yearly cost for wagon freighting $1,000,000,000. It is claimed that this freight could be transported the distance of eight miles over first class roads at an average cost of 80 cents per ton. On this basis, a saving of $600,000,000 a year in the cost of wagon transportation could be effected with first class roads in all sections of the country. The magnitude of this saving will be better appreciated when it is realized that it amounts to about one fourth of the value, on the farm, of all the farm products of the United States.

In round numbers the sum of $20,000,000 is paid out each year for the maintenance of our public roads outside of the cities. This estimate does not include the cost of permanent improvements. Thus at the end of the year, after an expenditure of $20,000,000, the roads of the country are no better than they were at the beginning of the year. The tax payers may go on paying this enormous sum for the maintenance of the public highways under the present system for an indefinite time without securing improved roads. All improvement must come from expenditures above this amount, from changes in the methods of repairing the highways or from the more careful use of them after they are repaired.

The maintenance of our public highways is therefore a serious problem involving the expenditure of large sums of money, and all means for reducing this expense without impairing the efficiency of the system should be immediately adopted. Give us broad tires.

J. L. LADD.

Bay City, Texas.

CORN EXPERIMENTS.

Correspondence of the Progressive Farmer.

Now that time for cornplanting is here, the subject is being discussed again. Farmers want the views of experienced men along this line, and I do not think we can find better literature than experiment station bulletins.

The Georgia Station has recently made some corn experiments, and as experience means something more than mere prattle, I will give THE PROGRESSIVE FARMER readers an epitome of the results obtained.

The fertilizer tests confirm results of previous years, that commercial fertilizers do not pay on corn in Georgia, but if used at all the best mixture is 1,000 pounds of acid phosphate, 50 pounds of muriate of potash and 1,000 pounds of cotton seed meal.

The tests of raw bone meal led to the following conclusions:

1. It is not expedient or profitable to apply raw bone meal as a source of phosphoric acid. This conclusion was also reached in discussing the cotton experiment of 1896.

2. That the residual effect of raw bone meal on a next succeeding crop is not sufficiently marked to justify its use on a preceding crop.

3. That, generally, it is not advisable to rely on raw bone meal as a source of phosphoric, for annual crops, unless the price is very much lower than the current market rates.

In regard to distance, two rather peculiar customs have had adherents in Georgia and possibly elsewhere. One is to plant corn in double rows; that is, plant two rows one foot apart, and then leave five or six feet of space and plant two more, and so on. The other peculiar method is thus stated by the bulletin:

The method consists essentially in laying off the corn rows at a moderate width, distributing the fertilizers continuously along the rows, then spacing the hills at double the usual distance apart and leaving two plants in each hill. The theory of the plan is this: The hills being twice the usual distance apart and containing two plants instead of one, and the fertilizer being distributed continuously along the row, the latter will not be so readily accessible to the plants, and will, therefore, be more gradually appropriated along through the growing season, instead of all becoming accessible and being taken up during the early stages of the crop growth.

Tests of these two methods in comparison with planting 3x3 feet, after the usual way, show that there is no advantage in either of these peculiar fads. On the contrary, after two years' tests, the bulletin concludes:

1. That the yield of corn will not be increased by planting in double rows, as compared with single rows, the number of plants per acre being the same in each case.

2. The general and incidental indications of many previous experiments, both in corn and cotton, point to the conclusion that the more nearly the acre of soil appropriated to each individual plant approaches the form of a square the greater will be the yield.

Subsoiling stiff red clay in December gave no increase in the following season's corn crop as compared with adjoining plots not subsoiled.

COTTON.

The bulletin adds that Allen's Long Staple has again proven to be the most productive long staple upland cotton ever cultivated at the station. If the lint were sold at an advance of 2 cents per pound over the price on which the comparisons were based in tables 2 and 3, the value of total products would place this variety easily at the head of the test. The lint is much longer than ordinary upland, and under favorable market conditions would probably fetch 2 cents a pound more.

GEORGIA CRACKER.

SWEET POTATO CULTURE.

Correspondence of The Progressive Farmer.

But few crops, if any, will give better results for the time necessarily consumed in culture.

HOT BEDS.

Construct a box about 18 inches deep the size wanted for bed by standing boards edgewise, secured by stakes driven into the ground. No bottom required. Place wheat straw to the depth of about six inches and pack down. Then six inches of fresh stable manure and wet with water. Then place on the manure to the depth of about two inches well rotted chip manure, clean sand or rich earth (any will answer well)

Some advocate using green pine tops in lieu of the wheat straw. In some instances, such as melon vines when placed in the bottom of a trench, they exert a remarkable influence in resisting drouth. I suggest a test.

Some prefer chip manure for covering.

When the vines run about three to four feet cut them off, leaving one leaf on the stub. Cut the vines, each piece containing three leaves, and set out as you would sprouts drawn in the usual way, two of the leaves being buried and one left above ground. The quantity and quality of potatoes can thus be largely improved. Consequently no sprouts should be set, except a limited quantity for early use.

If not ready to set out, the tops of the vines may be pinched off and let stand thus until a sucker starts out above each leaf. When these suckers are about one inch long the vines should be cut off, as aforesaid, and cut into pieces of one, instead of three leaves.

These cuttings may be properly placed in moist earth near a branch and covered to exclude the sun. In a few days roots will start out, when they may be in excellent condition for transplanting.

I am not prepared to state definitely which is the better plan, to cut into lengths of one or three leaves, but believe that one will be found preferable. In this case, the potatoes will grow near the surface where they can receive the benefit of the heat and air to a greater extent. Either plan will doubtless prove satisfactory. The second crop of vines should be cut off as aforesaid.

After sprouts start out from the stubs pull up and set out. The bed may then be torn up and the manure applied elsewhere.

Puddling.—This is done by making a soft mortar of clay (not surface soil) and immersing the roots therein. Thus treated, if the ground is sufficiently moist, the plants will grow off readily without water. But if late in the season, and especially if the weather be warm, it will be better to water the plants after they have been set, in addition to the application of clay.

A serious objection to hot beds is that when the plants are transferred to cold ground they become stunted and as a result grow off slowly. But if we let the vines remain, as aforesaid, the heat of the bed will, before the plants are removed, run down to sufficient extent to greatly lessen, if not wholly remove, said objection.

At the last working do not cover the vines. Sprouts should never be set deeper than they grow on the bed. If the sprouts are overgrown cut off the tops, leaving two leaves on the stubs.

The ridges may be four feet apart and the plants set from 12 to 18 inches apart, according to the fertility of the soil, rich land requiring the latter distance.

Cooking Potatoes for Hogs.—If potatoes be boiled and when done about one fourth the quantity of corn meal and a sufficiency of salt to make them palatable be added, I believe that the mixture will fatten hogs faster than all corn. Before killing they may be fed for a proper time wholly on corn or dough.

Keeping Potatoes.—If potatoes be put away at the right time and in the right way they can easily be kept through two winters. Consequently it is an easy matter to keep them until the new crop comes in. But for lack of space, directions for keeping will be reserved for a future article.

BRYAN TYSON.

Long Leaf, N. C.

P. S.—Water should be used for a few days after bedding to prevent overheating. B. T.

SEED CORN.

While "Georgia Cracker" writes on corn experiments this week, we give for the consideration of our readers the following timely hint from a correspondent of Farmers' Voice:

"Now is a good time to look over the seed corn and shell a bushel of the very best ears, to plant on the best ground in the field, and then to get your seed next fall Out of eight or ten bushels you ought to get one bushel of first class seed. Don't take an ear that will not give grains at least three fifths of an inch long. Let the ears be about nine or ten inches long and well filled out at ends, cob not large and of even size. Don't shell ears that have a chaffy look; let the grains be glossy and sound in appearance. The ear should feel heavy when you pick it up. Such corn when shelled should weigh about sixty pounds to the bushel. It will keep from now till the planting if kept dry. It does not pay to change seed corn, if you have a good variety keep on improving it. In Central and Northern Illinois corn does best if it ripens in about 100 days from the date of coming up. I raised such corn last year and it shelled out sixty-two bushels per acre and weighed fifty eight pounds to the stroked bushel, two and one sixteenths feet in the crib shelled a bushel."

GERMAN MILLET.

An exchange says:

"If you will prepare one acre of good land and make it rich with manure or fertilizer, say 20 loads manure or a ton of good fertilizer and put in fine condition and sow one bushel of German millet to the acre any time in May, you can make three or four tons of hay the equal of timothy. It should be cut before ripe, when in full head, but before seed are ripe. Try it and you will continue it."

Hon. Wm. J. Leary, Sr., who is well known in Eastern North Carolina, has written for the Elizabeth City Carolinian some comments on this clipping. He says:

"I have purchased hay which turned out to be a very poor article of food for horses and mules, and of no value at all for cattle. The German millet, when treated as suggested is not only a great producer, but is full or nutritious matter. It takes something more than corn and oats for working teams. It is said that man cannot live by bread alone, and it is also true of our faithful servants, the beasts of burden, such as the horse and mule, which require a certain amount of long feed, to keep them in good condition and working order. I think from observation, I can safely say, that nine out of ten farmers will be careless about the supply of food to their team, when they have to buy from time to time, in small quantities and it is not an unusual thing to hear the remark made that a full barn, means fine stock. It should therefore be the duty of every farmer to raise a supply of food, for both man and beast, amply sufficient, so that he may be prepared to give them all the necessary food required, and even though it may be the result of a full barn, have fine stock.

"The suggestion contained in the article covers half the ground, and the other half can be obtained by the proper cultivation of the soil in grain. We are in a favored land and the fault is with us if we do not succeed. It is of the first importance to raise corn, oats, potatoes, turnips, German millet and meat enough to supply the home demand, and then let your surplus crops be tobacco, broom corn, beets, asparagus or some other money making crop, and I believe coupled with energy, economy and thought the farmers will be prosperous, have plenty and to spare."

THE EXPERIMENT STATIONS.

Our farmers have not the time to read all the bulletins issued by the experiment stations. Hence, each week THE PROGRESSIVE FARMER will contain in a condensed form, the ideas and suggestions of the various bulletins of agricultural experiment stations. This is a very valuable feature of the paper. It means that our readers will receive in a little space, the conclusions and results obtained from experiments by leading farmers and scientists in all parts of the United States.

The planting season is at hand.

Following are the results of the corn experiments at Alabama Station last year:

Seed corn from Illinois gave a slightly larger yield than seed corn grown in the South.

In 1897 the productive varieties were Mosby Prolific, Cocke Prolific and Renfro.

Kernels from the middle portion of the ear used as seed failed to show any superiority over seed from the tip or butt end of the ear.

This will be a surprise to many North Carolina farmers.

Topping, and also cutting corn and curing it in shocks, slightly decreased the yield of grain. The combined value of grain and stalks, valuing the stalks at 25 cents per 100 pounds, was greater by $2 95 per acre than the value of the grain from the plot where only the ears were harvested.

When each plant was allowed 15 square feet of space, narrow rows and wide spacing in the drill gave slightly better average results than wide rows and close planting in the drill. Having regard to convenience of cultivation, as well as to the yield, rows practically 5 feet apart, with plants 3 feet apart in the drill, gave most satisfactory results on poor sandy land.

Cotton seed meal alone was the most profitable fertilizer for corn in 1897. Acid phosphate and kainit failed to increase the yield. Cotton seed placed in the ground so late as to germinate had considerable fertilizing value.

In bulletin 89 the same station reports the following results of tests in growing cotton:

The group of varieties yielding most lint were Texas Oak, Griffin, Hawkins, Deering, Mell Cross No. 15, Jones Re improved, Duncan, Hutchinson, Peterkin, Truitt and Whatley.

Seed of the same original stock, but grown for one year in different parts of the cotton belt when planted in Auburn, showed no marked difference in productiveness.

The yields obtained by planting fresh one year old and two year old seed were nearly identical.

With late cultivation the yield of cotton was slightly larger than with ordinary cultivation.

Truitt cotton in narrow rows on upland or medium quality gave practically the same yields, whether the single plants stood 12, 18 or 24 inches apart in the drill. The yield decreased when the distance between plants was increased to 30 or 36 inches. The crop matured earlier with thick planting.

Topped cotton plants yielded less than those not topped.

The use of 640 pounds of slaked lime, applied broadcast in 1896, failed to increase the crop that year. But cotton following broadcast cow peas, turned under in the spring of 1897, afforded a larger yield on the plot limed the previous year than on the plot not limed.

Subsoiling in January, 1896, was decidedly beneficial to the first crop of cotton, but afforded no increase in the second crop, grown in 1897.

A mixture of stable manure, cotton seed meal and acid phosphate, applied without composting, afforded a slightly larger yield than did exactly the same materials made into compost about one month before using.

Composting increased the efficiency of Florida soft phosphate, but not of acid phosphate.

Slightly larger yields were obtained by bedding on all the fertilizer than by reserving one fourth and applying this portion in the seed drill at planting time.

One hundred and fifty pounds per acre of cotton seed meal afforded a larger yield of seed cotton than 316 pounds of cotton seed or 70½ pounds of nitrate of soda. These amounts of the above named fertilizers contained equal quantities of nitrogen; hence cotton seed meal was the source whence the most effective form of nitrogen was obtained. Acid phosphate was more effective than soft phosphate rock. Phosphate alone failed to increase the yield. Cotton seed meal alone was highly beneficial. Kainit largely increased the yield, because it decreased injury from black rust.

OUR POULTRY YARD.

EDITED BY WALTER L. WOMBLE, BREEDER OF THOROUGHBRED FOWLS, Raleigh, N. C.

INTERVIEW WITH A CHICKEN CRANK.

A gentleman who has made the subject of the diseases of chickens a subject of some thirteen years' study dropped into the office the other day and we give some of his observations, as follows:

"Chickens carry mites around with them all the time on their legs. When you see chickens picking at their legs you may know that they are picking the mites. When a hen goes to hatching she cannot pick at the mites as fast as they are hatched, hence, the nest becomes foul. Tell your readers to save their wood ashes and when they set a hen, to sprinkle the ashes in the nest; this will settle the mites as far as the brooding hens are concerned.

"The way to get rid of lice on the chickens is to put pure lard, that is lard without sulphur, carbolic acid, etc., on the breasts and under the wings of brood hens every two weeks until the chickens are six weeks old. The lice take up their abode on the chickens on the neck and head—no place else. In dodging in and out under the hens they get their necks greased, and that settles the lice.

"Lice of different kinds will be found continually on the roosting poles. The way to settle them is to take your coal oil can, leave the spout open, and pass it along the poles once a week; this will settle that class of vermin. For the larger lice that are found on the older chickens keep plenty of wood ashes in a wooden box where they can have free access to it at all times; this will settle them."

"Say," continued he, "do you know that you can keep eggs the year around in good condition?" We expressed a very serious doubt. "Well," said he, "I can do it, provided I grow the eggs." We asked him how. "Kill off all the roosters as soon as you are through growing eggs for hatching; you have no further use for them anyhow until next year. Gather your eggs carefully, put them in boxes, put about two inches of plaster paris in the bottom of the box, turn your eggs on the little end, sift the plaster paris around them, then cover with plaster paris and so on until your box is full, then set it away in a cool place. There is no need of any man selling eggs short of twenty cents a dozen in this or any other country. An egg that has no germ in it will not spoil; the yolk may settle to one side or it may dry up exposed to the air and sun, but it will not spoil. I once made $500 in one year on a piece of land 35x40 by growing chickens.—Wallace's Farmer.

A good poultryman always takes a look at the chicks as the last important matter before going to bed.