

PROGRESSIVE FARMER

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

Vol. 15.

Raleigh, N. C., July 10, 1900.

No. 22

Agriculture.

SECOND CROP IRISH POTATOES.

Information Regarding a Crop That Should Be More Generally Grown in North Carolina.

The last issue of The Progressive Farmer contained an inquiry regarding this subject. From Bulletin 85 of the N. C. Experiment Station, we get the following items which are probably of unusual value from the fact that they are boiled down experiences of many growers who reported to the Station:

"Twenty-five years ago it was a common practice, everywhere south of Mason and Dixon's line, to plant a late crop of Irish potatoes in July, from seed kept over from the previous year. These, even when brought from the North, were inevitably shriveled from sprouting and with but weak vitality, and the late potato crop was always the most uncertain of crops, from the difficulty in getting a stand, and from the weakened tubers used making a feeble growth.

"Since the war the great development of vegetable culture in the South, particularly of early Irish potatoes from seed brought from the North, led to the discovery that the second crop could be better grown from tubers of the same season. * * *"

"No matter how thoroughly the land was manured for the early crop it will be best to use a liberal supply of fertilizer for the late one. If put upon a pea stubble there will be no need for further purchase of nitrogen, as was essential with the early crop; but it will always pay to use six hundred pounds of acid phosphate and two hundred pounds of kainit broadcast for this crop.

"In planting lay off the furrows three feet apart, run twice or three times in a furrow and clean it out with a shovel if not uniformly deep and regular. Prepare, plant and cover one row at a time while the soil is fresh. Plant at the bottom of the deep furrow, but cover very lightly. The covering we do with a hoe, and let the man who covers tramp over the row after covering, so as to press the soil tightly to the seed. When planting on a large scale, a machine similar to one used in some sections for covering corn may be used. This consists of an plow beam and handles, with a cross-bar in front, to which are attached two spike teeth a foot apart, and behind these a narrow roller. The two spikes will pull in plenty of soil from the sides of the trench, and the roller will compact it. Such a coverer can easily be made at home. Potatoes, properly sprouted, planted in this way will all be certain to grow, and a good stand is easy to get. As the potatoes grow the soil is pulled in around them by running the cultivator through until, finally, the trench is level. Do all the culture with the ordinary one-horse cultivator, and do not hill up. The potatoes will then form in the deep bed of mellow soil, the deep furrow will tend to retain moisture, and the crop will be larger than if grown in hills or ridges.

"The important points to observe, here in North Carolina, we think, are:

"1st. Bed the seed in the soil until planting time. This gets rid of those too immature to grow and which, if planted, would leave gaps in the rows.

"2d. Plant about second week in August, if possible, and use only those potatoes that are sprouted.

"3d. Plant in a deep furrow, but cover very lightly, and pack the soil to the seed.

"4th. We have since found that they sprout quicker if a small piece is cut off of potatoes used for planting.

"Gradually fill in the soil to the plants as they grow, and cultivate the crop perfectly flat."

So much for our Station bulletin. We now give an interesting experience report of Mr. W. N. Rudd, a prominent Tennessee grower, written for the Tennessee Agriculturist. Mr. Rudd's article is very interesting and contains a great deal of information. He has given us a peep

at intensive methods of potato raising worth close attention.

Fifteen or twenty tons of stable manure per acre! When some of our farmers begin to appreciate this statement they will stand aghast. A ton of stable manure is about one good two-horse load for average sized horses. The loads run about two to the cord, which would be 7½ to 10 cords. A cord is 128 cubic feet. But many farmers are used to apply manure by the bushel, which approximates to one and a fourth cubic feet. Since there are 128 cubic feet in a cord, there must be in a cord then about 410 bushels and in 7.5 to 10 cords 3,050 to 4,100 bushels of manure per acre. Adding a ton of high grade commercial manure the cost is from \$35 to \$50 per acre. But there is a large residuum of manurial elements which succeeding crops can take up.

Mr. Rudd's article is as follows: Probably there is no vegetable now in use that is used so extensively as the Irish potato. And notwithstanding the fact that the crop is easily raised and the climate of Middle Tennessee will admit two crops a year, there are many thousands of bushels of potatoes bought and brought here from different sections of the North to supply the consumers of this country. With our experience for the last seven years there has not been a season that has been so dry that we could not raise a paying crop either of the first or second and rarely ever that we could not raise a fair crop of both first and second crops.

Often times the first crop can be shipped North, bringing a fair profit, and if not they can be shipped South in the latter part of the summer, bringing a fair price. The second crop is always a sure money crop, rarely ever bringing less than a dollar and sometimes a dollar and fifty cents per bushel for seed, being far more valuable than Northern-grown seed. Although we do not raise potatoes on a large scale, yet we rarely ever receive less than \$50 and sometimes \$100 clear profit from an acre of ground, rarely ever yielding less than 150 to 200 bus. per acre in a dry season, with the prospect for 300 or 400 bushels in a good season. As the Irish potato is largely composed of water one who understands and puts in practice the principles of fertilization, together with the principles of cultivation as pertaining to soil moisture (laid down and fully explained at the different farmers' institutes this last winter by that most eminent scientist Andrew M. Soule) need have no fears as to the result of raising Irish potatoes.

As success depends to a great extent upon rapid growth and quick maturity it will not do to economize in the use of fertilizer. We never use less than a ton of high-grade fertilizer per acre, together with not less than 15 or 20 tons of stable manure spreading the manure broadcast in the winter, sometime before spring work begins; then as the ground is dry enough to work we begin by cultivating the manure into the surface with a cutaway plow some 4 or 5 inches deep. Then by using a turning plow we can plow the ground deep, leaving the ground well pulverized. Potatoes require a most thorough preparation of the soil as they will not do well in clods, and there is no crop that will respond more readily to good cultivation. Heavy fertilization requires far more thorough cultivation. As soon as the ground is prepared we lay off the ground about 28 inches wide with a large shovel plow with wings drawing in the wings: this leaves a broad furrow. We then scatter the fertilizer in the furrow well up on the sides of the furrow; then follow with a narrow and narrow calf tongue plow, thus mixing the fertilizer with the soil and preventing the seed potatoes from coming in contact with the fertilizer which is important when so much fertilizer is used. We then drop the seed potatoes (which have been cut and spread to dry 24 hours before planting) from 14 to 16 inches apart in the row, then by spreading the wings of the shovel plow some four

or five inches we drive the horse directly on the ridge thus formed by laying off, thus traversing the ridge and covering the seed potatoes 5 or 7 inches deep. As soon after a rain as the ground is dry enough to work we cultivate the ground lengthwise and crosswise alternately of the rows with a Hallock Success Weeder. We cultivate after every rain until the potatoes are up, by which time the ridges are worked nearly or quite level, then we give them at least one good deep cultivation as close to the plants as we can without disturbing the roots. We also keep up the surface cultivation with weeder till potatoes are up three inches high. We do not cultivate more than 1½ inches deep. We do not use a hoe only to clean out weeds. By using the weeder the weeds seldom get a start sufficient to be much of a hindrance. We use the earliest variety we can get, in order to get them ripened early, for in this lies one of the secrets of raising the second crop. Experience has shown conclusively that a full sized ripe potato will sprout and come up much quicker than a small green one. The first fully ripe potatoes we get are carefully saved for seed for the second crop, and laid away in the shade for two or three weeks, after which we cut and let them dry 24 hours and plant just the same as the first, on the same ground without the addition of any more fertilizer or manure, giving the same cultivation.

It is but little trouble to avoid being troubled with bugs. As Paris green applied as soon as the bugs make their appearance is almost sure death to them, using a tablespoonful of Paris green to 2½ or 3 gallons of water [1 ounce to 12½ gallons of water is an accurate safe proportion, and he who guesses may burn the tops.—Ed.] In the absence of a sprayer, a common 10-quart sprinkler will do. It is necessary that great care should be taken to prevent scabby potatoes; corrosive sublimate, dissolving one ounce in one gallon of hot water for 10 hours after which add 8 gallons of water, then soak the seed two hours, after which let them dry before planting. The cultivation required to raise two crops of potatoes with the amount of fertility used as herein described leaves the land in a most excellent condition for winter oats or wheat with a chance for a heavy crop of clover to follow.

To be profitable hens must have good shelter at all times, both summer and winter, a building with a tight roof to keep out water, and tight sides to keep out wind and snow. A wet or cold hen will not lay many eggs.—F. M. Munger.

CLEVELAND NOTES.

Correspondence of The Progressive Farmer.

Everybody seems to be emphasizing the fact that the hope of the South lies in more and better live stock to use the by-products of the farm and convert them into money. I notice that our very efficient National Secretary of Agriculture laid special stress on this in his address before the East Tennessee Farmers' Convention recently.

I notice you occasionally refer to wide-tire metal wheels. I can say from experience that they are all right. I can haul over ground when the team can walk, and the wheels will not cut down with any ordinary load. They pull heavier in right soft mud; as the wide tire has to make its own track. If all road wagons had wide tires that difficulty would be easily overcome. The low wide-tire wagon on the farm works to perfection. In lots of work it saves an extra man. I would not take three times the price I paid for mine, if I could get no other. I use four-inch tires, 32 and 36 inches high. CLODBOPPER.

Cleveland Co., N. C.

It is not a bad plan to seed the orchard occasionally to rye; sow clover in the spring, cut the rye while green and plow the clover down the following spring. This saves much work in summer cultivation and does not hurt the trees in any way.

THE COTTON GROWER AND TRUSTS.

Speech of Mr. F. J. Merriam, of Battle Hill, Ga., a Progressive Farmer Correspondent at the Georgia Cotton Growers' Convention.

Mr. Chairman and Gentlemen:—This is neither a trust nor an anti-trust convention. We have come here to perfect, if possible, an organization by whose aid we may be able to obtain a just return for our labor in the price of our cotton. I am rejoiced to see the business men and the bankers interested in this matter. It makes us feel that we are all akin, and that we are mutually dependent one on the other, and I am satisfied that nothing but good can come from organization of this kind.

The economical problems of today are very different from any we have yet been called upon to meet. The modern trust has appeared in the fore-ground, presenting an almost impregnable front. The newspapers and the politicians are full of suggestions for anti-trust legislation, all of which has apparently no effect, and the trusts grow more powerful every day. Different views exist regarding these trusts, some people believing them to be a good thing, while others think them an unmitigated evil. I do not hold with either of these views, but believe trusts to be both an advantage and a disadvantage. An advantage because they are able to profitably conduct a business and give steady employment to labor which would, if subject to competition, be unstable and unprofitable. A disadvantage, because their monopoly of any given product gives them an undue advantage over those individuals and those enterprises which cannot, or do not, combine; and this, friends, is the fix we farmers are in today, and this is one of the main reasons why we must organize.

A short crop of cotton, together with an increased demand, has raised the price. The trust, acting under a protective tariff, and seeing the farmer about to make a little something, raised the price of nearly everything he had to buy, and by this means transferred the money from his pocket to theirs.

Every time we go to town we find the price on something has advanced, until we begin to wonder what good the increased price of cotton will be to us. If this is the case now, what will we think when we make another big crop of cotton, rush it on the market in the promiscuous fashion we have become accustomed to, and the price drops back to 5 or 6 cents per pound, or perhaps less, while everything else still remains where it is. It will be no use to cry out for anti-trust legislation; the only thing to do is to meet combination with combination and demand what is yours.

Trusts have come to stay. They are the outgrowth of our present civilization, the inevitable result of competition. We have got to look at things as they are, and then adopt the most practical means of protecting ourselves. Of course, the farmer can stay at home and raise nearly everything he needs, his wife can spin and weave as she used to do; he can cut himself off from the world, as it were, and live, but in this case he does the world very little good, or himself, either. Now, while I am a firm believer in the raising of home supplies, at the same time I like to have a little money to spend for some of these countless conveniences and luxuries which modern ingenuity has prepared to facilitate the work and increase the happiness of mankind. Here at the South, cotton is our main money crop. With proper organization and management in marketing and manufacturing this crop at home, together with judicious methods of production, I am convinced that the farmers of the South today, and those within reach of my voice, will live to see an era of prosperity the like of which they never dreamed.

Now, gentlemen, higher prices are going to rule in most things you have to buy. They are the natural result of business activity; they stimulate enterprise and bring out

money for investment; this in turn creates a demand for labor, gives people more money to spend, and makes a larger market for farm produce outside of cotton, all of which is very good. But here is the point I wish to make: With all this money floating around, you may not notice it, but the organized industry, or trust, if you will, is in a position to demand a little more than their just share, and compel those who are engaged in the unorganized enterprises to pay for it, and not only this but accept for their produce less than they would otherwise be able to obtain. This will result in the enrichment of one class and the pauperizing of another class. Every enterprise, every business, and every class of labor should therefore organize. We must follow the signs of the times, we must organize in self-defense, for then, and only then, can we demand a just price of our cotton, and it is to the interest of every banker and business man in the South to help us do it.

A FIFTY-ACRE FARM.

A writer gives some excellent advice in an exchange as to how to get the best results from a 50-acre farm. He says:

Here is a very good plan to run a 50-acre farm; 150 fruit trees, peaches, apples, pears, etc.; one-half to 1 acre garden, made very rich, well worked; 4 milch cows; 1 acre sweet potatoes; one-half acre Irish potatoes; one-half acre of grapes; 6 to 10 hogs; one-half acre sorghum planted in rows for hogs; 2 to 3 acres sorghum, sowed broadcast for hay; one-half to 1 acre watermelons and muskmelons; chickens plenty and some to sell; 4 acres oats; 5 acres Bermuda grass; 20 acres corn; 15 acres cotton.

A farm managed on this plan would furnish a first-class living for the owner and family, and the surplus would be more than if nearly the whole farm was planted in cotton.

I know a man who has raised about what I have suggested, and one who is well acquainted with him, says he has \$10,000 loaned out on interest. Instead of being in debt and paying interest, he is lending money and getting interest.

Of course a great many cannot arrange their farm as suggested all at once; they may take two or three years. But first get in your mind what you want and then work to it. Commence by thoroughly manuring one acre for garden. Then get your cows, set out the orchard, find the best place for potatoes, etc.

On a farm thus arranged, besides plenty of all these things for your own use, which few people have, you should sell about as follows:

From orchard.....	\$ 50
From garden.....	25
From cows—butter, yearlings....	40
From sweet potatoes.....	25
From Irish potatoes.....	25
From vineyard.....	10
From hogs.....	50
From melons.....	30
Chickens and eggs.....	50
From cotton.....	150
Total.....	\$455

Besides this money you have raised some of all of them for your family.

If the Southern people will diversify their crops somewhat after the plan laid down here and keep out of debt, this will soon be a very prosperous people.

Of course some should vary from what is mentioned, according to kind of land, market, etc. Some might raise sheep or goats.

I do not know much about farming in the North, but it seems to me that they might diversify crops to advantage instead of all wheat, as in some sections, or all corn, as is done in parts of Kansas.

The grape crop throughout the State is said to be very good.

It is stated by Department of Agriculture experts that seventy years ago it required on an average, three hours' labor to produce one bushel of wheat; today the average is but ten minutes. In 1830 the cost of such labor was nearly 18 cents; at present it is but a trifle over 3 cents.

HARVESTING THE HAY CROP.

Correspondence of The Progressive Farmer.

The proper harvesting and preservation of the hay crop has a great influence on dairying, especially winter dairying.

A wise, and consequently successful dairyman, is always looking ahead a year or more, and making his plans accordingly.

He knows that because hay as a winter food for cows is taboed by some, is due to the reason that it is improperly cured and stored in the summer.

If we could only have weather made to order during haying, a much better quality of fodder than the average would result. With the most favorable weather conditions, some farmers would never have good hay. They harvest it too expeditiously, and then pack the imperfectly-cured grass into tight barns, where the excess moisture it contains results later in musty or "smoky" hay.

The bulk of the hay crop in the United States is harvested according to latitude prior to the middle of July, and it has long been considered as a rushing season of work. With modern machinery the ease and rapidity with which the crop can be handled, tempts the farmer to imperfect curing, and this is a point that I wish to speak about.

Do not put damp hay into large mows or stacks. If the grass contains an admixture of clover, after a few hours sun in the swath, cure it in cocks capped if necessary against possibility of rain. The idea is to get the moisture pretty well out of the hay before it has been stored away in bulk, and yet not let it become dry and bleached by too much sun.

The so-called "sweating" process that freshly cured hay passes through, being simply the evaporation of excess moisture, should take place under conditions in which air can freely circulate through it. By this plan fresh sweet hay can be fed out to the cows in winter, resulting in an increased milk flow and augmented dairy profits. The principal reason that hay has fallen into such disrepute as feed for dairy cows, is because there is so much poor hay fed.

Where hay is stacked it will always pay to thoroughly protect the top and sides against inclemency of the weather.

Balloon-framed sheds are useful for this purpose, but they must have tight roofs.

GEORGE E. NEWELL.

TOBACCO IN THE PHILIPPINES.

Tobacco growing readers of The Progressive Farmer in North Carolina and Virginia may be interested in the following article from Tobacco News:

Tobacco is probably the best known product exported from the Philippines, the Manila wrapper being known the world over. Three-fourths of all the tobacco grown in the Philippines comes from the provinces of Isabella and Cogan, on the island of Luzon, and the best grade leaf also comes from these two provinces. North and South Hocos, Abra and Union province also grow tobacco. The islands of Cebu, Negros and Panay also produce some tobacco, but neither in quantity nor quality does it approach Luzon.

The tobacco islands in the provinces of Isabella and Cayan, where the best grades are raised, are along the Cagayan and other rivers in these provinces. The soil is fairly heavy, limy and very rich in decomposed vegetable matter. The rivers of these districts overflow their banks every rainy season, and leave on the lands a deposit of mud and vegetable matter, often 8 to 10 inches deep and of wonderful richness. There is not an ounce of fertilizer, either commercial or barnyard, used on the tobacco plantations, and many of them have had the same crop every year for 40 or 50 years. The lowlands that are inundated every year grow the finest tobacco, yet the highlands also produce a very fine leaf, although lighter. This

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