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# THE PROGRESSIVE FARMER.

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

Vol. 12.

RALEIGH, N. C., JULY 13, 1897.

No. 23

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## PAPERS.

Progressive Farmer, State Organ, Raleigh, N. C.  
The Southern Farmer, Raleigh, N. C.  
The People's Paper, Concord, N. C.  
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## AGRICULTURE.

That man is wasting his substance who keeps a steer after he is ready for the market.

The good that sheep do the land in the destruction of weeds makes a small flock desirable even if used for no other purpose.

Better to sell an inferior animal than to breed it, even if it must be sold at a sacrifice. It is a good thing to grade up stock, but a better to cull out all below par.

A strand of barbed wire on top of the fence will often restrain breechy or unruly cattle and horses better than an additional board or rail, even if it does not make much show.

Thin out fruit where the crop is heavy. More money will be made from a small quantity of large, well grown and well colored fruit than from a large quantity of small, colorless fruit.

The services of a finely bred ram or bull once a year will give results sufficient to satisfy any farmer that his money is well spent; and at present prices of stock, the cost of introducing new blood into our flocks or herds is not great.

The "Farmer's Voice" says: "Let South America and Australia raise scrub ranch cattle and small sheep; our markets have changed. Live stock is essential to prosperity in agriculture, and to make it pay we must breed good stock which matures early."

The second crop of Irish potatoes should be planted this month. This crop is one which it will pay to give attention to. The tubers thus grown are always in demand in the spring for seed for the first early crop, as they do so much better than those raised early or brought from the North. In another column will be found full instructions for raising this crop.—Southern Planter.

## WEEKLY DIGEST

Of Experiment Station Bulletins.

No. 78.

THE COW PEA.

Bulletin 40, of Mississippi station treats of the cow pea. As we have no record of the discovery of the wild form of this plant, its origin is unknown. It has been cultivated for 3,000 years. There is even no record of its introduction into this country, but it has been grown here for more than a century.

No plant varies so readily and rapidly with varying conditions of soil and climate, as the cow pea, and hence there are more varieties of this plant than of almost any other staple field crop. Some are best for hay, others are best for grazing, and still others are best for softening and fertilizing land.

When seed is very cheap and labor scarce and high, sow them broadcast, early in the season, using one to two bushels of seed per acre. But in most cases it pays to drill them with a planter in rows two or three feet apart and give level shallow culture with a five prong cultivator till they shade the land. Use no hoes. The grass that grows in the drill will add to the quantity of hay. In this way one to two pecks of seed per acre are sufficient.

For hay, plant Unknown, Clay, or Whippoorwill, not too early in the season. For pasture, or to be left on the ground over winter, plant Unknown Black or Red Ripper, and plant early as possible. For seed to use as feed, Black Clay, Unknown, and Speckled Crowder are best. For table use, the Rice, Small and Large Lady, Sugar and Blackeye are best.

In all the Southern States, no other crop equals the cow-pea as a catch crop. Drilled between the corn rows at last working, or planted after oats, wheat, or early Irish potatoes, they make a fine crop of hay, rich grazing and enrich the soil for the next crop.

On fairly good land cow-peas need no fertilizing. On tight clays, stable manure or cotton seed give a heavier growth. On looser lands, acid phosphate and potash are beneficial, and if very poor in nitrogen, cotton seed meal may be added in small quantity at planting time to help the young plants till they get large enough to gather nitrogen from the air.

On very poor land the growth will be so light as to give a small return for the labor of harvesting and curing, and hence the most profitable use to make of the crop is to plow it under in fall and sow winter oats. But when a heavy growth is secured, the roots, stubble, and shattered leaves will be sufficient to greatly improve the land, and the tops should be harvested and used as stock feed and the resulting manure applied to the same or other land. In case of either, a light or heavy crop, grazing is advantageous as the resulting manure will be left on the land. At the Louisiana station it was found that a crop yielding two tons of hay, left in the soil with the roots, 6 pounds of phosphoric acid, 13 pounds of potash, and 21 pounds of nitrogen.

The value of this plant for hay increases very rapidly as the vines approach maturity, but if allowed to get ripe they are tough and indigestible. Out when the first pods begin to ripen. The hay is considered difficult to cure, but for four successive years the Mississippi station has had perfect success by the following method: As soon as the morning dew is off, start the mow and cut till noon. After the vines have wilted on top, run a tedder over them; turning the bottom ones up to the sun. The following afternoon put into cocks and if the weather is fair let these stand two or three days. If rained on, wait till the top ones dry and again run the tedder over them. A light rain does little damage to even cured hay, and a heavy rain of two or three days duration does not injure freshly cut vines. The essential points are to avoid handling the vines when wet with dew or rain, and to work rapidly. Always put in barn or in stack topped with hay and let them dry out a few weeks before baling.

The feeding value of pea vine hay, according to chemical analyses at the Connecticut station, as compared with that of other common feed stuffs, for productive acre of land is as follows: Oats, 40 bushels, \$10.71; Timothy, 2 tons, \$20.98; Red Clover, 2 tons, \$22.40; Corn 50 bushels, \$24.80; Cowpeas, 2 tons, \$25.20. When we consider that the pea crop leaves the land richer and in better mechanical condition than be-

fore it was produced, the value of this crop, especially in a rotation, is apparent.

The production of peas is exceedingly variable, ranging from 6 to 30 bushels per acre. A very rank growth of vines may be attended by very little fruitage. The average is about 20 bushels. They may be left on the vines till all are ripe and then gathered by children quite rapidly. Threshing must be done with a flail, as all pea-threshers thus far tested are unsatisfactory. Put in a tight barrel, pour two ounces bisulphide of carbon over the top and quickly cover close. This will kill all weevil. Examine occasionally and if weevil begin to appear, give them another dose. The seed are often scarce and high, but range in price from 50 cents to \$2 per bushel, usually bringing \$1 to \$1.50.

## EXPERIMENTS WITH TOBACCO.

Bulletin 47, of Hatch (Mass.) station, gives an account of a series of experiments in tobacco culture carried on by that station conjointly with the Valley Tobacco Experiment Association, an organization of tobacco growers in the valley of the Connecticut river. These experiments were carried on at three central points, for three successive years.

It was found to be important to plant as early as possible in order to get the advantage of the winter moisture. It was also found that too much space between plants causes a coarse leaf, while too little interferes with leaf development. Rows three feet apart and the plants two feet apart in the row gave best results.

Frequent and shallow use of cultivator and hoe gave best results. Careless or deep cultivation always checked growth.

Fertilizers affect the quality much more than the quantity of the crop. Mineral fertilizers containing much salt makes tobacco burn poorly. Cut ton seed hull ashes and high grade sulphate of potash have been the most satisfactory potash fertilizers used. A good acid phosphoric acid. Cotton seed meal, linseed meal, and castor-bean pomace are about equally good sources of nitrogen but one pound of the nitrogen used should be in the form of nitrate of soda. If barn yard manure is used, it must be well rotted and must be supplemented by acid phosphate and ashes or sulphate of potash, to balance its excess of nitrogen.

## POTATO MACHINERY.

Bulletin 52, of Minnesota station, reviews some tests of new varieties of Irish potatoes, and discusses and illustrates a large number of machines for cutting, planting, digging and sorting potatoes.

Several years observation of variety tests has shown that, to make the comparisons fair and instructive, it is necessary to have all the seed used of equal soundness and vigor. If seed of one variety is firm and sound, while that of another has been exhausted by continuous sprouting, no just comparison can be made. Again, the place from which seed comes may or may not make a difference. In most parts of Minnesota, potatoes may be grown for years without any deterioration of seed; but in that part of the State where the experiment station is located, all varieties deteriorate after the second year, and fresh seed must be brought from elsewhere. Again, if seed of one variety carries with it the germs of scab or blight while the other is free from taint of disease, the comparison will be misleading. Hence, at this station great care is exercised to secure seed of the different varieties as nearly perfect in health and vigor and as uniform in development as possible.

Of extra early new varieties tested, Ohio Jr., stood first, Vaughan 23, Van Ornam's Earliest 33, Burpee's Extra Early 4th. Of second earlies, Bovee was 1st, Good News 2d, Polaris 3d, Early Fortune 4th. Of later kinds, Rose No. 9 stood 1st, Enormous 2d, and Early Cyclone 3d. Of latest kinds, Country Gentleman stood 1st, Summit 2d, Irish Cobbler 3d, and Prizetaker 4.

Blight was measurably controlled by spraying with Bordeaux mixture, and scab by soaking the seed in corrosive sublimate solution.

While potato growing has been largely over done for two years past and low prices have caused many to abandon extensive planting, the crop is so staple and so well adapted to the soils and climate of Minnesota that it will continue to be an important factor in many farm rotations.

For several years the station has been asking manufacturers of potato

machinery to submit their implements to comparative tests at the station. In most instances, the manufacturers have responded by donating machines for permanent use and exhibition at the station. The collection now consists of more than \$600 worth, and when these machines are put to work side by side, farmers have flocked in to witness the test to the number of 2,000. The bulletin gives cuts, descriptions, and prices of those machines that have done satisfactory work, but makes no mention of the others. All tests have been made under average field conditions, in many instances resort for this purpose being had to potatoes fields on farms in the neighborhood of the station. If a machine failed to do good work, the manufacturer was notified and his instructions were followed carefully.

Of potato cutters, mention is made of the Aspinwall, \$10; Colgrove, \$8; Prairie City, \$2.50.

Of hand planters, the Acme, \$1; Delmore, \$1.50; and Colgrove, \$1.50 are described and illustrated. An active man can plant one to three acres a day with one of these.

Horse planters are of two classes—those operated by one man and those requiring two. The latter are most reliable. A simple and good planter used in Minnesota is made by attaching a joint of stove pipe to the rear of a sulky plow so that the pipe will guide the seed pieces to the bottom of the furrow just behind and almost under the plow. A careful boy to drop the seed pieces into the pipe and a good driver operate it perfectly.

The Aspinwall planter opens the furrow, drops seed and fertilizer and covers all at one time. Price \$70, or \$60 without fertilizer attachment.

The Deers does same work as Aspinwall, except fertilizer. Price \$60. Both operate with one man but do good work.

The Improved Robbins, price \$55, and Spofield, price \$36, both do good work, but require two men to operate.

Potato Diggers come still higher. The good ones shown in this bulletin are the Dowden, \$100; Hoover, \$110; Improved Hallock, \$20; Standard, \$75.

The potato sorters shown are Dowden and Hoover, each \$15.

The bulletin suggests that the farmers of a neighborhood might buy a set of potato implements in co-operation.

## FOREIGN WHEAT.

Bulletin 141, of Michigan station, treats of tests of some foreign varieties of wheat at that station.

Ten cross bred varieties were received from the originator in Australia; ten varieties came from Russia, and six from Germany.

The bulletin gives names and descriptions of all these wheats, and their behavior the first year is noted, but the reader is cautioned that their merits and faults cannot become fully known till they have been tried several years.

A circular was sent to 200 Michigan wheat growers requesting them to name the ten best varieties of wheat for that state. Only 130 replied, and 92 of them include both Red Clauson and White Clauson; 34 name Jones' Winter Fife, 26 Diehl Mediterranean, 35 Nigger, 25 Poole, and no other variety receives as many as 20 mentions.

Red Clauson has stood first for two years in comparison with 53 of the most popular varieties at the Canadian stations. It has a hard, stiff straw, beard less head, larger at top than bottom, a brown chaff, large, dull red, rather soft berry. It is medium early. Its only superiority to White Clauson is in the stiffer straw.

The Southern Farmer says: When threshing the wheat and oat crops, see that proper care is taken of the straw and chaff. These are too valuable as feed and for bedding for stock to be wasted, as they often are. Have the straw carefully stacked as near to the barn and cattle sheds as possible, so that it may be convenient for feeding during the winter, and have the stacks well topped up and finished off with marsh hay or rough grass, so that they will shed the rain. Let the chaff be put into the barn or be stored in pens and covered with straw.

Certainly the dog has been a disastrous element in the sheep industry. The tariff may temporarily help the wool grower, but he must get the business on a better basis than that, for a tariff will not last always. Whatever the price of wool may ever be, do not neglect the muton side.

## HORTICULTURE

BERRY BULLETIN, JUNE.

Will it pay to continue strawberry beds more than one year? That depends much on the condition of the bed at the close of the fruiting season. If the ground is rich, the rows well filled out, the crop light, and nearly free from grass and weeds, it will then usually pay to continue one, two or more years. If, however, plants are exhausted by a large yield, and grass and weeds have been allowed to grow, it will be more work to place old beds in condition than to prepare new ones.

If to be discontinued, plow at once and sow some late crop for feed or fertility.

To renew old beds, mow off plants; as soon as dry burn over, reduce rows to six or eight inches in width with spade or cultivator. Remove all weeds, every particle of grass, apply a liberal dressing of fine manure, cultivate and keep clean same as with new beds.

Right here is one of the great benefits of keeping new beds perfectly clean. It saves a large amount of labor when beds are continued more than one year.

Old beds produce berries a little earlier, and the second year is often better than the first, when treated in this manner.

The bearing canes of raspberries and blackberries should be removed immediately after fruiting. Cut out all small weak canes, leaving only five or six in the hill.

The removal of old canes leaves no hiding place for worm or bug, or eggs of same. It also allows the free circulation of air and the sun penetrates the center of the bush, making canes strong and vigorous with a good development of fruit buds for the following season.

The removal and burning of all dead, weak and surplus growth is the best preventive against disease.

In berry growing, remember that good work for two seasons is necessary. First, the most important, to grow, develop and mature strong healthy canes, vines and buds for next seasons' fruit.

Second, to mature the fruit, which depends very much on the care and growth of the previous year.

Favorable seasons for fruit are of little avail if the preparatory work has been neglected.

M. A. THAYER.

## Sparta, Wis.

The best soil for the raspberry is a warm, rich loam; however, fairly good land of any kind, if well underdrained, will produce good crops. Prepare the soil by breaking at a fair depth and pulverize well; and if the soil needs it, broadcast and work in when fine the soil some well rotted or compost manure. Cross off at about six feet each way, if the ground admits cultivation both ways, and plant at the intersections. Some cultivators, however, where land is scarce or dear, plant about six feet one way and only three the other, which does very well, only the cultivation admitted is not quite so good nor the fruit gathering so convenient as in the other way. In setting, the plants should be well and firmly set, drawing the soil up well and firmly about them, which better secures the life of the plants and against disturbances by winds. To plant in the evening is preferable.—Southern Farmer.

## THE ECONOMIC VALUE OF A TOAD.

The Hatch Experiment Station of the State College at Amherst has just issued bulletin 46, which is on "The Habits, Food and Economic Value of the American Toad." The bulletin is the work of A. H. Kirkland, assistant entomologist to the gypsy moth committee. Mr. Kirkland finds that insects constitute 77 per cent. of the food of a toad. To show the number of worms which a toad destroys he states that in the stomach of a single toad were found 56 army worms, in another 65 gypsy moth caterpillars, and in a third 37 tent caterpillars. He records an experiment where in three hours time a toad had consumed between 30 and 35 full grown celery worms. He found by examination of a large number of toads that 87 per cent. of the insects they destroy are injurious to cultivated crops, or in other ways obnoxious to man. A toad would devour, in the months of May, June and July, the following: 3,312 ants, 2,208 cut worms, 1,840 myrapods, 2,218 sour bugs, 368 weevils, and 368 carabids. Of these, 9,986 are injurious insects, and 384 are

beneficial insects. Mr. Kirkland then figures out the amount in dollars and cents which a toad may be worth. Confining his attention to but one element of the food, the cut worms, and assuming that ten per cent. of these insects would have been killed by the carabid beetles, it still leaves 1,988 cut worms to the toad's credit; and if the damage the cut worms would have caused be estimated at one cent per worm, a figure which gardeners and tobacco growers will probably consider ridiculously low, it will be seen that a toad might destroy cut worms which would otherwise have destroyed crops to the extent of \$19.88—Ex.

## LIVE STOCK.

LIVE STOCK ITEMS.

### WOUNDS OF LIVE STOCK.

The treatment of wounds, cuts and abrasions in horse and cattle practice has undergone an entire change during the past decade. Farmers very rarely ask the storekeeper for "green" or "black" oils, digestive ointments and cure-alls nowadays, and the more recent antiseptics, carbolic acid and iodoform, are not used so recklessly. Farmers have been taught a more rational course of treatment for their animals in general, or what may be termed up-to-times treatment. Concerning wounds of all kinds, when the skin is broken, the parts should be thoroughly cleaned either with warm water or cold, the former preferred; using castile or pure carbolic soap. When this is done a solution of bichloride of mercury, one grain to 1,000 grains of water, is the strength; that is about two drachms to the gallon of water, but it is better to have the chemists make the solution for it should be properly dissolved. This solution should be sprayed over the wound above and below. When done, a sheet of medicated absorbent cotton should be bandaged over the part carefully and left undisturbed for three or four days, the time depending, of course, on the nature of the injury. Then it should come off and the parts should be again well cleaned and the same treatment repeated, using the fresh medicated cotton and fresh bandages, says an exchange.

Much earlier than when under the old ointment or grease treatment, the sores will be found healing up nicely, and this comes about through not interfering with nature's reparation process, but just cleansing the parts and applying an antiseptic that will destroy any germ that may have lodged in the sores to do mischief, whilst the medicated absorbent cotton (i. e. cotton that has been treated with the bichloride and dried) keeps germs from getting into the wound or sore afterward. Nature can be assisted only by making the conditions as favorable as possible for nature to work. The old method of employing rancid ointments retarded instead of assisting nature in healing.

### SALT FOR DAIRY COWS.

Salt is universally recognized as of prime importance to farm animals, and especially to milch cows. Rock salt is not as much in favor as formerly. It is a good plan to have loose salt where the animals may have daily access to it. Prof. Robertson, of the Ontario agricultural department, says that salt to the amount of a quarter of a pound a day should be added to the ration of a milch cow. He says, that other conditions being equal, a cow fed this amount of salt daily will yield 14 to 17 per cent. more and richer milk than if deprived of salt; that in hot weather milk will keep sweet several hours longer if salt is a part of the daily ration.

### HOGS AND DISEASE.

Hogs in a pen or small lot are less subject to infection when cholera is in the neighborhood than those which are allowed to run at large or in the fields. It is consequently advisable, when there is reason to fear this disease, to keep the hogs in a small inclosure, which should be as dry as possible, and disinfected once a week with air-slacked lime or a 5 per cent. solution of carbolic acid. The swine grower should use every effort to prevent the introduction of the contagion of those diseases upon his premises. If he purchases hogs from a distance or sends his own animals for exhibition at the fairs, he should insist upon their being transported in clean cars, which have been disinfected if they have previously carried swine.—Western Plowman.