

PROGRESSIVE FARMER

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

Vol. 16.

Raleigh, N. C., May 28, 1901.

No. 15

Agriculture.

WORK OF THE NATIONAL DEPARTMENT OF AGRICULTURE.

Our Washington Correspondent Describes Some of Its Recent Movements.

Correspondence of The Progressive Farmer.

The Department of Agriculture is now distributing throughout the middle section of the country orange seedlings obtained only by crossing the hardy but worthless Japanese orange with the tender but sweet Florida product. These seedlings are expected to thrive out of doors as far north as this city. Experiments along the line indicated were begun by the Department five years ago. A citrus trifoliata, or the Japanese orange, which is extensively used for hedges, was selected as a parent, and its buds were fertilized with pollen from the sweet orange. A double cross was made by fertilizing the buds of a sweet orange tree with pollen from Japanese orange. The crossing of the Japanese and sweet orange trees continues, and a citrus trifoliata, now blooming in the grounds of the Department of Agriculture, has within the last two or three days been impregnated with sweet pollen, and the blossoms covered with paper bags to prevent fertilization with other pollen borne in the wind or carried by insects.

The Yearbook for 1900 is almost ready.

A farmers' bulletin treating of the principal insect enemies of growing wheat has been prepared by C. L. Marlatt, First Assistant Entomologist of the Department of Agriculture. Mr. Marlatt discusses the chinch bug, Hessian fly, wheat midge, wheat plant louse, straw worms, bulb worms, army worms and saw flies. "There are numerous insects," he says, "the number running into the hundreds, which feed on and injure growing wheat. Most of these insects are of rare or chance occurrence, and have no economic importance whatever, although the fact that they are found on wheat often leads the farmer to be curious about them or unnecessarily arouses his fears. The great proportion of the losses to wheat fields which is chargeable to insects is due to the attacks of less than a half a dozen species. These, in the order to their importance, are the chinch bug, the Hessian fly, the wheat midge and the grain plant louse. Of second-rate importance are such insects as the wheat straw worms, the wheat bulb worm, army worms, cut worms and various saw flies. Then there follows a great horde of insects of minor importance which need not be considered in this connection. This is leaving out of consideration the locusts, or grasshoppers, including the Rocky Mountain, or migratory species, which occasionally injure wheat, but such injury is unusual and as a rule limited to migrations of locusts from one section to another, which are of infrequent occurrence nowadays, at least in the principal winter wheat-growing regions, and have never been noteworthy except in the western districts." Mr. Marlatt recommends clean culture and rotation of crops as the best and simplest means of preventing the increase of the pests.

The latest crop report of the Agricultural Department asserts that the present acreage of wheat under cultivation with that sown last fall is 23.3 per cent.; as compared with that harvested last year it is 107.7 per cent. The average condition of the wheat was on May 1 94.1; of rye was 41.6; of meadow grass, 92.8; and of spring pasture, 91.5. About 57 per cent. of the spring plowing had been done on May 1. Put in another form, there were 28,267,000 acres of winter wheat under cultivation on May 1, this being 2,015,000 acres, or 6.7 per cent. less than the area sown last fall, but 2,032,000 acres, or 7.7 per cent. in excess of the winter wheat acreage harvested last year. Of the reduction, about one-half is reported from Texas and California, due in the former State to the ravages of the wheat plant louse, and in the latter to the cutting, as is not unusual in that State, of a considerable acreage of forage. E. G. S.

HARRY FARMER'S TALKS.

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Correspondence of The Progressive Farmer.

Here is a story told by a successful young farmer of Columbus county. He is too modest to have his name published, but we will give his words.

"Mr. S., how much corn do you plant?"

Mr. S.—"I plant about seven acres. I do not know exactly how much I make, but I have a plenty for my own use and to sell."

"Do you make as much as your father did?"

Mr. S.—"Yes, and more. He used to plow one horse and never made corn, potatoes, etc., to last till spring. He planted just as much as the horse could plow over in two weeks. We boys (there were three or four of us) used to follow the plow with our hoes. Everything had to be worked with the weed hoe. The land for corn was plowed into a bed by running about five furrows; then the bed was split open and the corn dropped and covered with our foot or hoe. The next thing done was to plow out the middles and follow with the hoes. The corn was left this way for three or four weeks, then one furrow thrown on each side of the corn and followed again with the hoes. In about three weeks every other middle was plowed and peas planted, if we wanted any to feed sheep or cattle during the winter. The corn was left in this condition for two or three weeks again, and the other middle plowed and then we hilled it with the hoes. We made from three to ten bushels per acre—nothing like enough to pay for the hoe work.

"Our potatoes had to be planted in rows made by first plowing the ground into beds and then finished with hoes. The beds had to be made perfectly smooth and as free from trash as the mound over a grave. We did not have potatoes later than Christmas.

"We planted cotton and used some fertilizer. We planted by hand and the cotton seed scattered in a furrow and covered with a drag. We had a time to chop that cotton! The plants were scattered on the row in a space from 4 to 10 inches wide. Chopping was done about like it is now; that is, we blocked it out and put some dirt to it with a hoe, as we had no cotton plow. The next working it had to be 'flat wed' and we small boys had to thin ahead of the hoes. Of course we had to hill it up. Everything had to have its hilling. We made from 300 to 1,500 pounds of seed cotton to the acre. If cotton had to be made like it was then, there would not be any over-production.

"I make more corn and cotton than we did then and three times as many potatoes on less land. My father was regarded as a good farmer. I sow oats and follow them with peas. I rotate corn and peas one year and cotton the next. My crops are increasing a little every year. I do not make as much as I would if I worked more and used more fertilizer. My fertilizer bill is not much larger than my father's. I cultivate less than half the land he did."

Here is something for the young farmer to think about. Mr. S. works less land than his father. The average young farmer of to-day wants to spread out too much. You can't build up a large farm in a day or a year any easier than Rome was built, and if you ever succeed you must take a little at a time and work it well. We have "often bitten off more than we could chew," which gave us trouble later on.

HARRY FARMER.

Columbus Co., N. C.

THE YEARBOOK FOR 1900.

The Yearbook of the U. S. Department of Agriculture for 1900 is now in press and will soon be issued.

In addition to the Report of the Secretary and the Appendix, this volume contains thirty-one articles, five more than last year. While the Yearbook for 1900 is not specially devoted to a review of the work of the several Divisions, it is distinctly representative of the work of

the department. With one exception, every article was prepared by an employee of the department, and each division of original work is represented by one or more articles. Every article, except those prepared in the division of publications, covers some important line of work carried on in the bureau, division, or office from which it emanated. The two articles prepared in the division of publications, while not relating directly to the work of the department or to practical agriculture, will, it is believed, be found of great interest to American agriculturists.

As provided by law, the first part consists of the report of the Secretary of Agriculture.

The articles which comprise the second part of the volume are as follows: "Smyrna Fig Culture in the United States" by L. O. Howard; "Application of Weather Forecasts," by Alfred J. Henry; "Agricultural Education in France," by C. B. Smith; "Commercial Plant Introduction," by Jared G. Smith; "Forest Extension in the Middle West," by William L. Hall; "The World's Exhibit of Leaf Tobacco at the Paris Exposition of 1900," by Marcus L. Floyd; "Influence of Rye on the Price of Wheat," by Edward T. Peters; "Mountain Roads," by James W. Abbott; "Fungous Diseases of Forest Trees," by Hermann von Schrenk; "Rabies: Its Cause, Frequency and Treatment," by D. E. Salmon; "The Scale Insect and Mite Enemies of Citrus Trees," by C. L. Marlatt; "How Birds Affect the Orchard," by F. E. L. Beal; "Some Poisonous Plants of the Northern Stock Ranges," by V. K. Chesnut; "Hot Waves: Conditions Which Produce Them and Their Effect on Agriculture," by Alvin T. Burrows; "The Value of Potatoes as Food," by C. F. Langworth; "The Selection of Materials for Macadam Roads," by Logan Waller Page; "Practical Forestry in the Southern Appalachians," by Overton W. Price; "Commercial Pear Culture," by M. B. Waite; "Objects and Methods of Investigating Certain Physical Properties of Soils," by Lyman J. Briggs; "The Food of Nesting Birds," by Sylvester D. Judd; "Development of the Trucking Interests," by F. S. Earle; "The Date Palm and Its Culture," by Walter T. Swingle; "Practical Irrigation," by C. T. Johnson and J. D. Stannard; "Free Delivery of Rural Mails," by Charles H. Greathouse; "Successful Wheat Growing in Seniarid Districts," by Mark Alfred Carleton; "Testing Commercial Varieties of Vegetables," by W. W. Tracy, Jr.; "The Use and Abuse of Food Preservatives," by W. D. Bigelow; "The Influence of Refrigeration on the Fruit Industry," by William A. Taylor; "Our Native Pasture Plants," by F. Lamson-Scribner; "Dairy Products at the Paris Exposition of 1900," by Henry E. Alvord; and "William Saunders," by the Editor.

The Appendix contains the directory of the department, the directory of colleges and experiment stations, lists of state officials in charge of agriculture, secretaries of State agricultural societies, officers of various agricultural and kindred associations, statistics of farm crops, and other information of interest to the farmer.

A new feature of the Appendix is the publication of requirements for admission to the agricultural department of the land-grant colleges, and the cost of attendance. The Yearbook is a volume of 888 pages, and is illustrated with a frontispiece, 87 plates, of which nine are colored, and 88 text figures. The regular edition is 500,000 copies, of which 470,000 are by law reserved for the exclusive use of Senators, Representatives, and Delegates in Congress. Progressive Farmer readers desiring copies should apply immediately to their Congressmen. The Yearbook is free to all applicants while the supply lasts.

The small quota allotted to the department is not sufficient to supply even its regular correspondents and co-workers, hence, it is necessary that application for copies be addressed to Congressmen.

VALUE OF COTTON SEED TO THE FARMER.

The results of two years' feeding experiments with milch cows to determine the value of cotton seed to the farmer are reported in a bulletin of the Mississippi Station, of which the following is a summary:

The facts as demonstrated are: (1) A pound of cotton seed has a greater value for feeding cattle than a pound of corn; (2) a pound of cotton seed meal has a feeding value about equal to 2 pounds of corn; (3) that at least 85 per cent. of the fertilizing ingredients in the feeds is excreted by the animals fed, and may be recovered in the manure; (4) that nearly half of the fertilizing ingredients excreted is found in the urine; (5) that both cotton seed and cotton seed meal may constitute a very important part of the grain feed of cattle without injury to their health; (6) that cotton seed and cotton seed meal, when fed to dairy cows in proper quantity and properly combined with other feeds, do not injure the quality of either milk or butter.

With corn at 40 cents per bushel (about the average price in this State) a ton of cotton seed is worth \$16.70 as a feed, for either beef cattle or dairy cattle. At present prices for fertilizers nitrogen costs about 12 cents per pound and phosphoric acid and potash each 5 cents per pound. Allowing these prices for the same ingredients in manure, we have \$9.09 as a fertilizing value of the manure for each ton of seed fed, making for a farmer a total value per ton of \$25.79. Farmers sell their seed for \$4 to \$6 per ton. Some of them sell for \$2 per ton.

In a similar way we find the feeding value of a ton of cotton seed meal to be \$28.56, and the manure to be worth \$19.13 for every ton of meal consumed, making a total value of \$47.69 that a farmer might derive per ton by first feeding the meal to cattle and applying the manure to his land. * * *

The cotton crop for the South [in 1897-98] was 11,200,000 bales and 5,600,000 tons of seed, having a combined feeding and fertilizing value of \$144,424,000. At \$5 per ton the seed would have brought \$28,000,000. * * * The farmers of the cotton belt lost \$116,424,000 [on this one crop].

The present disposition of the cotton seed crop secures to the farmer a very small part of its real value, and must of necessity give place to a practice that will secure to the farmer the maximum benefit which he may derive from this product.

The time will come when the Southern farmer will realize that the fertilizing value in cotton seed must stay on the farm to maintain its fertility and productiveness. He will not always regard the matter of hauling as of no consequence—as something which he can do without cost. If the best disposition of cotton seed is finally demonstrated to be to extract the oil for human food and other commercial purposes, and let the meal and hulls go back to the farms to serve both as feed and fertilizer, then most likely there will be a small oil mill at each ginery and oil and lint will be the only products of the cotton crop sent to the market.

The Southern farmer, however, need not wait for oil mills. He may get the full value of his cotton seed by a judicious system of feeding, accompanied by the most careful saving and proper use of the manure.

A great many breeders do not have a water run for the ducks, sometimes because the plants being located without water it is too much expense to make the change. Other things being equal, a water run conduces to a higher fertility in eggs and a hardier race of birds.—G. H. Pollard, Bristol Co., Mass.

The fertility of the soil is very much like one's bank account: when the withdrawals are continuous and without any deposits, it becomes simply a matter of time when our checks will return to us dishonored. On the other hand, when the deposits exceed the withdrawals, said bank account is continually growing larger.—G. H. Turner, Burgess, Miss.

Horticulture.

PEACH TREE BORER.

A Description of Its Appearance—How to Prevent Its Ravages.

Correspondence of The Progressive Farmer.

One of its subscribers writes to The Progressive Farmer as follows:

"Will you please tell me what is the matter with my peach trees? They are dying, and upon examination we find from one to two large white worms, 1 to 1½ inches in length, at the roots of the trees, just beneath the surface of the soil. Is the above-described pest the cause of the trouble? If so, please give remedy."

The letter gives a good description of the work of the peach borer, (*Sannina exitiosa*), which we may do well to consider for a few moments, as it is the cause of much loss to peach growers.

The adult of the borer is a moth, which, with wings spread, measures about an inch across. The female is steel blue in color, with a yellow band around the middle of the body, while the male is grayish in color, and lacks the yellow band. The moths fly during the day, and may be seen in the orchards during warm days, afternoons especially, in the summer. The hind wings are transparent in the female, and both pairs of wings are transparent in the male, thus giving the moths a close resemblance to wasps. The female is considerably larger than the male.

The eggs are laid on the bark near the surface of the ground, and when the worms hatch, they enter the bark at the surface, and feed between the rough bark and the wood. The worms mature and transform to moths in the spring in this State, (according to growers who have been in this State longer than the writer). The full-grown caterpillar spins a cocoon of silk, that is covered with bits of chips of eaten bark, and this stage of its existence is passed at the base of the tree, usually surrounded by gum that has exuded from the tree as a result of its injuries.

This is one of the few pests from which spraying gives no relief. The most common method of fighting the pest is to dig the worms out by hand with a knife in the spring. The dirt should be removed from the base of the trees in the fall, and the worming should be done not later than the first of April, so as to get it done before the worms leave the tree to transform. This point in the operation is very important and must not be neglected. After worming a tree, sprinkle a handful of lime at the base of the tree, and replace the dirt, hilling it up a little around the base. This operation must be repeated each year, though after one or two years, the worms will not be so abundant as when the operation is done for the first time in an orchard. Though this requires considerable labor, the result more than pays, as is testified by the fact that the best growers find it to their advantage to follow this method year after year.

Another good method of fighting the pest is by covering the trunk of the tree from below the surface to a height of about 15 inches above the ground, with a coating of tar. If this be done in connection with the worming and the use of the lime as already suggested, the injury from the borer will be reduced to a minimum. FRANKLIN SHERMAN, JR., Entomologist Dep't of Agriculture, Raleigh, N. C.

INTENSIVE ORCHARD CULTIVATION.

Correspondence of The Progressive Farmer.

There is more need of intensive methods of orchard cultivation than ever, for if there is anything that modern experience teaches it is that fine fruit raised in abundance pays exceedingly well, while ordinary fruit either in small quantity or in abundance, hardly returns profit enough to represent interest on the investment. A great many people go into orcharding with the idea that they know it all; but after they have tried it for a few years they drop it as unprofitable, or wisely learn that they knew next to nothing about the industry.

There is located near me an orchard

which pays the owner a handsome income. It occupies fifty acres of land that has been brought to the highest state of fertility through persistent work for ten years. Every acre of that land is capable of making any fruit tree or vine produce their best. Through careful selective methods the owner has obtained the trees and vines which he considers do the best in his locality, and the fruit of which has a high market value. Every variety produces the finest fruits—grapes, peaches, apples, peaches and small fruits. Every modern scientific method of culture, protection and stimulation of the plants and trees has been experimented with, and after careful tests those found satisfactory adopted.

This orchard never fails to produce excellent fruit. So constantly does this happen year after year that the man's reputation for the finest fruit shipments has extended to all markets within a hundred miles. There are off seasons when the fruit is poorer than in other years, and when the crop is small; but during years when others cannot sell their fruits because of poor quality and glutted markets, this neighbor of mine has orders for his products at satisfactory prices. Indeed, the commission men seek him out and try to induce him to sell; but he has learned to value his products at their true worth, and no speculator can hope to come and buy him out unless the cash is handed over first. For five years now he has averaged from ten to twenty per cent. more for his fancy fruits than the average market price paid.

His secret is not a difficult one. He has made intensive culture his aim in life, and he has developed his orchard to its utmost limit. In his early efforts he found his trees yielding poor fruit. Time and again he was deceived by the recommendation of others in regard to varieties of vines and trees, and he had to cut out poor and inferior varieties. This severe method in time helped, for it enabled him to establish a fine orchard of trees and plants that he personally knew all about. It is the old story of man learning for himself but persisting through failure and discouragement, always having faith in the future. He believed some day he would make the business pay. To-day he does, and he is such a master of the whole industry that he is sure of his income.

S. W. CHAMBERS.

STRAWBERRY GROWING.

Some Points From a Virginia Grower's Experience.

Mr. J. Clifton Wheat, of Winchester, Va., writes the Practical Farmer a readable letter which we reproduce herewith Says Mr. Wheat:

Of the newer varieties of strawberries I have tested the following on a light soil: Excelsior, an extra early berry of large size and fine quality; the best of the very early sorts which I have tested; plants vigorous. Brandywine, the best all round berry I have; mid season to late and lots of berries of the finest quality. A strong grower and plant maker. Clyde: mid season and of the largest type; perfect shape and color of extra quality and a strong grower. Haverland: wonderfully productive; fruit large and color good, but a poor shipper; plant a good clean grower. Bismarck has not done well with me; Aroma: very late and a good medium size berry. Howell: one of the best very large berries. Plants clean and vigorous, and heavy bearers. Nick Ohmer: an all season berry of the largest size and finest quality; plants strong and stocky. Wm. Belt: large berries of good color and a good sort; plants clean and healthy. Were I limited to five varieties, I would select Excelsior, Brandywine, Clyde, Nick Ohmer and Howell, as they run from very early to extremely late, and are fine for the best fancy trade whether for a nearby market or for shipping.

I much prefer the hill system of setting as while there may not be so many berries, they are larger, firmer, better colored and sell more readily

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