THE PROGRESSIVE FARMER

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

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

FARM AFFAIRS.

NORTH CAROLINA AGRICULTURE.

According to the Record, an unusually large crop of wheat has been sowed in Chatham this season, which has been remarkably favorable.

The blue ribbon hog—the enormous Berkshire porker exhibited by Mr. George Vanderbilt's Biltmore farms at the State Fair—has been purchased by a Raleigh man—Mr. R. T. Mills.

We like to publish such letters as that in this issue from the Pasquotank farmer, giving his experience with poultry. Read it, heed it and remember that we shall be glad to have you write us of your successes or failures in farming for the benefit of your brother farmers.

The Commonwealth states that Mr. Henry Allsbrook, who lives near Scotland Neck, planted one bushel of peas amongst his corn, and picked 5 400 pounds of peas in the hulls. Counting by his estimate, one bushel for every 100 pounds in the hulls, he has gathered 54 bushels of peas from one, which is a very fine yield.

The crop pest commission has granted license to 54 nurseries out of the State and 44 in the State to sell their stock in North Carolina. It is interesting to know that the nurseries in the State range in size from three acres to 225 There is one of 225 acres, one of 150, two of 90 each, and two nurseries of 35 each, which raise only native ornamental plants.

The Scotland Neck Commonwealth is fighting for a cotton factory, a great peanut cleaner, and a seed farm for Scotland Neck and vicinity. As to the seed farm it says: Among the new things suggested for this region is a great seed farm. A gentleman who has had considerable experience in handling seeds of various kinds said recently that he believes that a seed farm on a large scale somewhere in this region would pay. Very few farmers, truckers, and gardeners, comparatively speaking, raise their own seed, and there is argument for such an enterprise here. Now let some one commence it on a small scale and develop it gradually and follow the development with a good business.

TWENTY-FIVE VACANCIES IN THE A. & M. COLLEGE.

Entrance Examinations to be Held in the County Court House at Raleigh, December 16, 1899.

Young men desiring to enter the A. & M. College at Raleigh may be examined Saturday, December 16th, 1899, at the court house of this county, at 10 o'clock a. m., by the County Superintendent of Schools. The subjects of examination are arithmetic (complete), Algebra (to fractions), English Grammar and American History.

There will probably be about twenty-five vacancies in the College, and young men will be selected to fill these vacancies who pass the best examinations and have the best endorsements as to character. This is a rare opportunity for worthy boys to fit themselves for success in life by means of a practical education. Those desiring to be admitted would do well to write to President Winston, Raleigh, N. C.

THE FERTILIZER QUESTION.

Correspondence of the Progressive Farmer.

The average Southern farmer should not hope permanently to increase, or even maintain the fertility of his land by means of commercial fertilizers alone. By this is meant that their continued annual use will be without profitable returns, unless aided either by liberal dressings of stable manure, or by green manures from some crop like cow peas or clover. To use only mineral fertilizers, such as acid phosphate or acid phosphate and potash, on very poor land, is almost money thrown away. The average so called complete or ammoniated fertilizer is little if any better. The reason for all this is that the excess of the mineral elements exhausts the soil of its nitrogen and of its party decayed vegetable and animal matter, or humus, and this more quickly than if no fertilizer were used.

The following considerations make this subject plainer: The chemical analysis of our soils show that if we consider the total amounts of plant food they contain, the nitrogen supply would be consumed first, next would be phosphoric acid, and last of all, potash. If we consider the plant food in the soil to the depth of one foot, and it were possible to grow wheat year after year, at the rate of twenty bushels to the acre, the average virgin soil of this State would be entirely without nitrogen in about eighty years. The phosphoric acid would be sufficient for 170 years, while the potash would last 670 years. One bushel of wheat removes in grain and straw more nitrogen, both in pounds and in money value, than the other elements combined, as follows: 2 1 pounds of nitrogen, worth at a low estimate 25 cents; 0 6 pounds of phosphoric acid, worth 2 4 cents; 0 9 pounds of potash, worth 4 cents. To furnish this amount of nitrogen, one hundred pounds of the average complete fertilizer would be necessary, which would supply enough available phosphoric acid for fifteen bushels, and enough potash for two bushels. This one hundred pounds would cost, at retail prices, about 95 cents; if home-mixed, about 60 cents. It is evident, therefore, that the complete fertilizer cannot be used by itself, to build up worn lands, or even to maintain those already in fair condition. It is still more evident that the mineral fertilizers without nitrogen, will fall even further short of this object.

The problem of improving our soils most profitably will be solved in most instances by the judicious use of mineral fertilizers, accompanied by stable manure and the growing of cow peas, clover, or the like. The mistake must not be made of mowing these crops for hay and then not returning the manure, under the wrong impression that the roots contain the most of the plant food. Approximately one fifth of the total nitrogen may be considered as left in the roots, stubble, etc. A carefully selected rotation of crops, in which cow peas play a prominent part, is the first essential in the bettering of worn lands. Peas without mineral fertilizers will improve for years to come much of our land that is beginning to run down; particularly that which was naturally strongest and best, such as our alluvial soils and our clayey limestone soils, which are richly supplied with mineral elements. If a mineral fertilizer be needed, general experience teaches that acid phosphate is by far the more profitable. This can be still better understood when we have explained some principles of acid phosphate manufacture. The finely ground lime phosphate rock is treated about an equal weight of strong sulphuric acid. Chemical change takes place so that a part of the phosphoric acid becomes soluble in water. Another part, though less soluble, is made readily available to growing crops; while a small amount still retains its insoluble and unavailable character. One other important change has taken place. The sulphuric acid has combined with the lime, making lime sulphate, commonly called gypsum or land plaster, so that it forms nearly one-half of the total weight of the acid phosphate. It is now well established that this plaster frees large amounts of insoluble soil potash, and so makes the fertilizer element which is so much the most abundant in our soils available for plant use. Hence, acid phosphate supplies phosphoric acid directly and potash indirectly. The two or three per cent. of potash in the average mixture of acid phosphate and potash is perfectly justifiable, as a small amount of this element may give the crop a better start and may even be a necessity. Since only a part of the available phosphoric acid is used during the first year of its application, it has been found best to apply considerably more than the crop will remove. Three hundred pounds for a soil in good condition would not be excessive for general farm crops.

Something should now be said in favor of the ammoniated fertilizer. For example, it is often used with profit on strong lands when one exhausting crop follows another, as wheat after corn A little easily available nitrogen is furnished, so that the wheat gets a better start, after which it can forage more vigorously for itself.

In conclusion, rely first of all on cow peas and stable manure. Try mineral fertilizers, acid phosphate in particular, as valuable helps. Buy acid phosphate, muriate of potash, and cotton seed meal by themselves so that you can make your own experiments and mix your own goods to suit your crop and soil. CHARLES A. MOOERS.

Tennessee Experiment Station.

TRUE EDUCATION.

The Southern Farm Magazine, of Baltimore, comments on the address of Prof. Irby, "Educated Farmers the Hope of North Carolina," recently published in The Progressive Farmer, as follows:

"In an address delivered by Prof. Irby before the Agricultural Society of the North Carolina College of Agriculture and Mechanic Arts, he took the ground that the hope of the Old North State was in educated farmers. The address was a very practical one, demonstrating clearly the relation between success in agriculture and proper preparation for it by education. One sentence of Professor Irby should be developed into a volume. It is: 'Education is really something drawn out of a person, and not something stuffed into him.'

"The great trouble for many of the rising generation to day is that what passes for education to day is in reality nothing but something stuffed into them. The are trained to memorize a lot of stuff which will be absolutely useless to them in their life work, to the neglect of the training of the powers of observation and reasoning. They are equipped with a lot of material entirely unsuited for the careers to which they are born. They are unconsciously weaned from a recognition of the dignity of physical labor by the will o' wisp glamor of over crowded professions, and instead of being able to contribute to the healthy betterment of the masses of men and women, they become a nucleus for unreasing discontent.

"If Professor Irby can successfully warn the students of the college against the pitfalls of an ambition in inverse proportion to qualifications and circumstances he will be doing a good work for his State and his country."

HOW TO WINTER APPLES, POTATOES AND TURNIPS.

Apples, potatoes and turnips can be kept crisp and in best condition in pits out of doors, by selecting a dry, well drained spot. For apples, dig a trench three feet or less wide and one deep, put enough straw or like material underneath and on top to keep clean from dirt, cover with earth not more than two inches, put it down so as to shed water. At the approach of cold weather put on about fifteen inches of corn fodder.

For potatoes, make a trench two or three feet wide and one or two feet deep, and of lenth required to hold the quantity to be buried. Put them in a conical heap and cover with straw—crab grass or flax straw is best—five to eight inches thick, and with soil two to three inches. When ground freezes about three inches, put on two to four inches of stable manure, then ten to fifteen inches of hay or corn fodder, to carry off water. The soil freezing and cracking open lets in both cold and water, which causes freezing and rot In large heaps they will heat, as the gas cannot escape. In cellars they will lose both flavor and crispness.

For turnips, dig a trench not over two feet wide. No straw or like material need be used for turnips—not more than four inches of earth well patted down, to shed water. Could I have read the above twenty-five years ago, and practiced it, it would have been worth hundreds of dollars to me. Seeing so much loss prompts me to write this article.—Jacob Faith, in Democrat and Journal.

SOME FAR-REACHING EXPERIMENTS IN AGRICULTURE.

By act of Congress there was appropriated for the use of the Department of Agriculture, during the fiscal year 1899, $20,000 for the collection, purchase, propagation, and distribution of rare and valuable seeds, bulbs, trees, shrubs, vines, cuttings, and plants from foreign lands, with the view to their acclimatization and introduction into this country. To further this work Secretary Wilson has founded a Section of Seed and Plant Introduction, under the direct care of the Division of Botany, and for this section several "agricultural explorers" have been sent, or are now in, various foreign countries. It is not so much in the field of the domestication of wild or little known plant life that the Secretary has wisely determined to expend the fund at his disposal as in that of the introduction into our land of useful plants already elsewhere domesticated and thoroughly proved to be of great agricultural value. One of the explorers sent out is Mr. W. T. Swingle, who, after a most painstaking and successful trip in the countries bordering both shores of the Mediterranean, has returned laden with material and data of the greatest possible value. Many of the discoveries will benefit agriculture in North Carolina and the South From a preliminary report made by him many of the following facts are taken, as condensed for the Scientific American:

FINER TABLE GRAPES.

Notwithstanding the great progress made in the improvement of the native grapes, we yet have nothing comparable in flavor or general market value to the fancy European stock derived from varieties of the species Vitis vinifera. Being less hardy than our native species, these foreign varieties have not so well withstood the attacks of the dreaded phylloxera and other enemies to the vine. The French viticulturists long since discovered that a remedy lay in grafting the European on selected American stocks, which are almost proof against such attacks. In this way the resisting qualities of the stock are combined with the high quality of the graft, and it has been discovered that the combination is also more prolific than were the European varieties before the advent of phylloxera.

Mr. Swingle has secured upward of 2 000 plants of 119 of the best varieties, all grafted on specially selected American stock. These are to be thoroughly tested in chosen localities in North Carolina, Florida, Alabama, and Kansas, under the direction of the Division of Pomology. Careful observations will be made, so that these varieties may be eventually distributed to the regions best adapted for them, and it is hoped, with confidence, that they can be established in many parts of the South, and that table grape culture can be greatly extended by the culture of these superior European sorts.

General interest will be felt in the South and Southwest in the methods of corinth (commonly called "currant") culture in Greece and Turkey, and the importation of the best sorts of this vine, which it is hoped to make next winter. At present we import of wines, corinths, raisins and fresh grapes, an aggregate of over $8 350,000 a year. No inconsiderable part of this great amount is that which goes to pay for corinths and and seedless raisins. It is agreed, and with reason, that not only ought we to be able to produce all these commodities needed for our home consumption, but we should be able, in time, to add them to our articles of export.

Certain new hybrid varieties, crossed between the delicate high grade European and the hardy American grapes, the so-called "Franco American" varieties, have also been obtained, and much is hoped from them, since the resistance of the American parent is to a certain extent combined with the fine quality of the European parent in their offspring.

EVER-BEARING STRAWBERRIES.

Of great interest to the suburbanite and the amateur fruit culturist, although not likely to prove attractive to truckers and market gardeners, is a large, ever-bearing strawberry, much esteemed and very successful in France. The plants of this variety produce fruit for some months each year, and a small patch will yield all the season. In this connection it is interesting to point out that in several portions of the high mountains of the West Indies there grows a variety of wild strawberry which may be picked from the same plants for at least six months, if not longer. These are found in high pockets or arroyas on the north side of the "Blue Range," in Jamaica, and La Selle Range, in Hayti, and it is more than likely that they will be found in the higher ridges north of Santiago, Cuba. They appear very prolific for the wild sort, and of a very unusual and delicious flavor.

THE TRUE ARTICHOKE.

This name is here commonly applied to a tuber resembling the potato, which is now grown in some localities quite extensively for stock feeding and alcohol distillation, but is of little value for human food. This is the "Jerusalem artichoke." The unopened heads of a thistle like plant are, however, the real artichoke. The latter are a delicacy greatly prized in certain parts of Europe and produced in enormous quantities in France and Italy. The plant, a perennial, does not come true from seed, but is propagated, like the pineapple and many other plants, from suckers.

As the true artichoke is much prized in New Orleans, Savannah, Philadelphia, and New York, having for some time been grown for local use in the former city, it is believed that the general introduction of the plant will be appreciated by the people throughout the country, and a sufficient number of suckers have been imported by the department to early insure their indefinite multiplication. The cultivation of the artichoke should prove to be a venture among our Southern truckers, especially as it is adapted to furnishing a canned delicacy.

FARMERS' READING COURSES.

The U. S. Department of Agriculture has in press and will soon issue Bulletin No. 72, Office of Experiment Stations, entitled "Farmers' Reading Courses."

The bulletin was prepared by Prof. L. H. Bailey, M. S., Professor of Horticulture in Cornell University, and gives a history of the organization of farmers' reading courses, which have become an important factor among the agencies for diffusing knowledge and promoting enthusiasm among farmers

To show the character and scope of a reading course outlined by President Mills, of the Agricultural College of Ontario, in 1892, the "Course of reading for second class certificates," as printed in the report of the college for that year, is given. A few persons took up the reading and passed creditable examinations upon questions which were submitted to them; but the prizes went mostly to ex students of the college, and the number became so small after a time that the whole enterprise was dropped.

The bulletin then reviews all the farmers' reading courses in North America, beginning with that established in July, 1892, in connection with the Pennsylvania State College, which is stated to be the most famous single venture of its kind.

In 1893 the name of the enterprise which had been known as the "Chautauqua Course of Home Reading," and as the "Chautauqua Course of Home Study in Agriculture," became "Correspondence Courses in Agriculture."

Printed lessons on particular subjects treated in various books, and on farm book-keeping, are sent to students. These lessons are designed to bring the subject-matter of the books up to date, to describe simple experiments, to illustrate the subject, and to suggest the important or fundamental matters. The lessons are sent to the reader one at a time. Accompanying each lesson is a list of questions to be answered. The replies are sent to the superintendent of the reading course at the State College, and another lesson is then mailed to the reader. In this way the superintendent keeps in touch with the student. He can also exercise some control over the student by withholding lessons when the questions are not faithfully answered.

The Pennsylvania correspondence courses are five in number: Crop production; live stock production; horticulture and floriculture; dairying; and domestic economy. Each course consists of seven distinct subjects or books, making thirty-five books in all.

The reading courses of several States are conducted on similar lines to those in Pennsylvania.

The Cornell or New York plan is to give the farmer a short, specially prepared lesson, and then to quiz him on it. The motive is to reach the many, not the few. The farmer who can and will read books can take care of himself, but the one who cannot or will not needs help, whether he wants it or not. The idea is to get the rank and file to read books by first interesting them in simple, short, and easily digested matter. When the farmer is once interested it needs only good administrative machinery to keep him interested and to lead him on.

The operation of the Cornell plan as now prosecuted comprises: Securing the farmer's name; sending him a lesson with a separate paper containing questions (called a quiz); the active organization of reading clubs; and the sending of special inspectors and lecturers to these clubs.

Two distinct ideas are represented in the reading courses outlined in the bulletin. The older or Chautauqua-Pennsylvania idea is that of a definite, prescribed, self-limited technical correspondence curriculum, the completion of which is signalized by a certificate or diploma. The other or Cornell idea is that of a flexible, non limited, untechnical reading course in which there is no system of counts, and which does not lead to certificatory honors. The bulletin says: "The former is intensive; it is adapted to the few. The latter is elementary; it is adapted to the many. Each is incomplete.

"The ideal reading course system is that which joins the two ideas. Its general work is to touch and awaken every farmer, particularly every poor farmer; it searches out the man who has small opportunities. Its special work is to aid the few who are already successful; it accepts the man of fair or large opportunities. If the primary object of a reading course is a mission, the Cornell system would seem to be the better; but if the object is technical education, the Pennsylvania or curriculum system is the better. But since the complete reading course is both a missionary and a schoolmaster, it is evident that the two systems should be be conjoined."

The bulletin contains lists of books used in various reading courses, and in an appendix representative documents used in various States.

CATTLE VS. COTTON.

At the recent meeting of Commissioners of Agriculture of Atlanta a paper prepared by Commissioner Jefferson Johnson, of Texas, was read by Assistant Commissioner Wright, of Georgia, the former being unable to attend the convention. Mr. Johnson's subject was "The Cattle Industry vs. The All Cotton Plan."

This paper in part was as follows:

"The recent advance in cotton, while it is very gratifying to all, is fraught with great danger to the cotton planting interest. Many will be deceived by it, not realizing that this advance has been caused by an act of Providence by causing a great drought to overspread the whole cotton growing region, and not by the increased decreased demand for cotton.

"At this time, notwithstanding the advance in the price of cotton, a pound of fat beef on foot, at the markets, is worth as much as a pound of cotton, so that a steer weighing a thousand pounds is worth as much as two bales of cotton, and is just as easily converted into money.

"Remembering the fact that cattle are annually decreasing and the population increasing, the demand for beef increasing in the same ratio of increase of population, we must reasonably conclude that at least for the present and near future, the cattle industry will prosper.

"I regard the All Cotton Plan as one in which a man plants in the same way for years, selling the cotton seed for from $6 to $8 per ton, and returning nothing to the soil. The result is inevitable, impoverished lands.

"I find that cotton seed products, either raw seed, pasture and hay, or cotton seed meal and hulls, makes a good food for cattle; it is equal to corn and hay; and that beef so fed brings the same price in market as that fed with different food.

"Now let us take a farmer who makes ten bales of cotton, and who desires to change his system of all cotton. To begin with, he would reduce his cotton acreage, and plant for seven instead of ten bales, using the extra acres for pea vines, alfalfa, millet, corn or other feed stuffs; he would have from his seven bales of cotton three and one-

[CONTINUED ON PAGE 8.]