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

THE PROGRESSIVE FARMER.

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

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

Vol. 11. RALEIGH, N. C., DECEMBER 15, 1896. No. 45

THE NATIONAL FARMERS' ALLIANCE AND INDUSTRIAL UNION.

President—Mann Page, Brandon, Va.
Vice-President—H. C. Snavely, Lebanon, Pa.
Secretary-Treasurer—R. A. Southworth, Denver, Col.

EXECUTIVE BOARD.

H. L. Loucks, Huron, S. D.; W. P. Bricker, Cogan Station, Pa.; J. F. Willetts, Kansas; W. L. Peeke, Ga.

JUDICIARY.

R. A. Southworth, Denver, Colo.
S. W. Beck, Alabama.
M. D. Davie, Kentucky.

NORTH CAROLINA FARMERS' STATE ALLIANCE.

President—Dr. Cyrus Thompson, Highlands, N. C.
Vice-President—Jno. Graham, Ridgeway, N. C.
Secretary-Treasurer—W. S. Barnes, Hillsboro, N. C.
Lecturer—J. T. B. Hoover, Elm City, N. C.
Steward—Dr. V. N. Seawell, Villanow, N. C.
Chaplain—Rev. P. H. Massey, Durham, N. C.
Door-keeper—Geo. T. Lane, Greensboro, N. C.
Assistant Door-keeper—Jas. E. Lyon, Durham, N. C.
Sergeant-at-Arms—A. D. K. Wallace, Rutherfordton, N. C.
State Business Agent—T. Ivey, Hillsboro, N. C.
Trustee Business Agency Fund—W. A. Graham, Machpelah, N. C.

EXECUTIVE COMMITTEE OF THE NORTH CAROLINA FARMERS' STATE ALLIANCE.

A. F. Hileman, Concord, N. C.; N. [illegible] English, Trinity, N. C.; James M. [illegible] Hins on, N. C.

[illegible] ENCE JUDICIARY COMMITTEE.

[illegible] Brady, Gatesville, N. C.; Dr. F. Harrell, Whiteville, N. C.; T. J. Chandler, Acton, N. C.

North Carolina Reform Press Association.

Officers—J. L. Ramsey, President; Marion Butler, Vice-President; W. S. Barnes, Secretary.

PAPERS.

Progressive Farmer, State Organ,	Raleigh, N. C.
Caucasian,	Raleigh, N. C.
Mercury,	Hickory, N. C.
[illegible]	Whitakers, N. C.
[illegible]	Beaver Dam, N. C.
[illegible] Pilot,	Lumberton, N. C.
[illegible]'s Paper,	Charlotte, N. C.
[illegible] Tribune,	Concord, N. C.
[illegible] Plow-Boy,	Wadesboro, N. C.
Carolina Watchman,	Salisbury, N. C.

Each of the above-named papers are requested to keep the list standing on the first page and add others, provided they are duly elected. Any paper failing to advocate the Ocala platform will be dropped from the list promptly. Our people can now see what papers are published in their interest.

AGRICULTURE.

Let's all get a move on us and meet the good times we are wishing for half way.

Give the boys a literary education as well as a farm education; they work well together.

Arrange so there will always be a good supply of good, dry stove wood convenient to the kitchen.

The grain raising portions of the South will reap a little benefit from the higher prices. That is some help.

Agriculture is going into the common schools of the country just as soon as the people become thoroughly aroused to its importance.

The breeder who begins now to raise a few good colts will not regret it. By the time they are ready to use there will be a great demand.

The poultryman, the hog raiser and the dairyman and the intensive farmer will have more money at the end of next year than the man who plods along in the old ruts.

Unless a man has business ability, it will not help him much to have a head full of theories about farming. But if he has energy, thorough knowledge will help him wonderfully.

The improvement in farming methods about to be inaugurated all over the South will result in proving to the world what has long been known by the residents of the South—that this is the best section of the United States.

Intensive farming may properly be termed a new industry, from the fact that there are so few engaged in it. It is an industry which commends itself to every practical farmer, and there is more money in it than in any system of the old style.

No rain in India up to late November brought further distress to famine districts, while in certain provinces the crop condition was improved. In addition to several cargoes of wheat shipped to India from this country, one or two shiploads of corn have been bought in New York, the first business of this kind on record.

GROWING GRASS FOR HAY AND GRAZING.

We have before us an interesting lecture delivered recently by Prof. William H. Brewer, of Yale, on the effect of well kept grass land He says:

"Permanent grass lands are an important factor of stability in the business of any country. It is the most conservative element in agriculture, as agriculture is the most conservative of industries. That is, long established grass lands constitute the least changeable part of the most slowly changeable of industries. From its very nature it must be so, and this fact necessarily and inevitably influences the business stability of a country or community where such grass lands exist

* * * * *

Botanists have described three or four thousand species of grasses, of which a very small relative number have much value in forming the turfs of our climate and in other countries similar to ours. As botanists study grasses, their most important characters are those which relate to the flowers and seed. By no other set of characters have grasses been satisfactorily classified, so as to be scientifically studied as a whole or their relations to the rest of the vegetable kingdom understood. The unit of classification as used by botanists, is the species, but the individuals of a species vary among themselves and constitute groups known as varieties. Varieties are more changeable than species and are especially liable to be formed as a result of cultivation, or when they grow amid the conditions of cultivation Hence we have many varieties of each species of cultivated plants. All the immense number of varieties of maize doubtless have arisen from one original wild species, and so of the varieties of potatoes, of wheat, oats, barley, etc.

The tendency which plants have to run to varieties to suit the local conditions shows itself even in the uncultivated weeds that infest the fields and gardens. Special varieties adapt themselves to the local conditions they find in cultivated soil, because thus better adapted to fight their way and maintain a hold against the aggressions of the farmer or gardener who tries to kill them.

Precisely so with the turf grasses. A single species may exist as numerous varieties, some more robust or aggressive, others less so having different capacities to withstand too wet or too dry periods, to stand droughts, or other vicissitudes of climate, or to endure and flourish under the grazing of cattle. Let us keep in mind, also, that while the natural tendency of plants is to produce seed and propagate in that way, in crops of grass, either when cut for hay or grazed for pasture, it is foliage, not seed, that is the aim of the farmer.

In nature and in art, there are two ways by which plants are propagated; the "sexual" method through the production of flowers and seed and the "non-sexual method" which includes many forms, such as underground stems in some species, bulbs, tubers runners, etc., tillering with grains and grasses, etc. In artificial culture, propagation by means of grafts, buds, cuttings, and similar ways belong to the non-sexual methods, and are very extensively practiced. Gardening and fruit growing could hardly be carried on without this.

* * * * *

Now, in the production of new varieties by nature, the vast majority come through the seed. Some plants of a new generation differ from the parents. It may be that the new variety will perpetuate itself from the seed, more often it does not, at least with that certainty and completeness that farmers and gardeners wish. Hence, in farm and garden practice, where crops are from annual plants, we seek varieties that grow true to the seed as is the case with our grains and most of our vegetables. When of long lived plants, we often propagate the varieties only by non sexual methods, by cuttings, grafts, buds, etc. Such is the practice with most of our larger fruits and with many ornamental plants and only by such methods could our wonderful success have been achieved. In many cases, the value of the variety has increased as the tendency to produce seed is reduced. Many of our best fruits produce seeds but sparingly, some not at all. We have a familiar example in bananas which have been so long cultivated and propagated only by suckers, that all the best varieties are seedless. I question if any of you ever saw a banana with seeds, and a variety of seedless grape, known as the Zante currant has been grown without seeds from ancient times.

We grow various coops of foliage rather than for seed; tobacco is a familiar example. Were it grown primarily for its seed, we would use very different varieties and the leaves would suffer deterioration in the interest of the seed grower.

Grasses for use on the farm, either for hay or pasture, are grown for foliage and stalks, that is, for the vegetative portion rather than the seed. They are all of long lived species. How long an individual grass plant will live in a well kept permanent meadow or pasture no one knows, but we know that it may be, and usually is, very long lived.

I have already said that in nature, most varieties probably originate in seedlings. Some times, however, they originate in the vegetative part of the plant itself. The variation may extend to a single branch, and there are examples of varieties of ornamental plants which have so originated, the varying branch being propagated and multiplied by means of cuttings.

* * * * *

By an analogous process Mr. Olcott studies turf grasses. A bit of sod is carefully torn into fine shreds, its individual plants separated and set out each by itself and allowed to spread by the sprouts from the root crowns, until it forms a bit of turf of its own sort. This is essentially the way they spread in a pasture or meadow. Any other sort appearing in its plot is carefully weeded out and the variety is studied as a "Pure culture," so to speak. There is no limit, theoretically, to this method of propagation. It is doing with grass what is extensively done in many branches of horticulture and even in agriculture. It is entirely practicable for lawn purposes and may be for certain phases of field culture. That, however, is not yet proved It is not probable that a meadow can be as practicably planted out as a tobacco field, but for certain purposes such planting is probably practicable. It certainly is on as large a scale as has yet been tried. My own dooryard has been turfed from one original plant.

ONTARIO AGRICULTURAL AND EXPERIMENTAL UNION.

ONTARIO AGRICULTURAL COLLEGE,
Guelph, Can Nov. 27 1896

Correspondence of The Progressive Farmer.

Enclosed you will find a programme of the next annual meeting of the Ontario Agricultural and Experimental Union, which is to be held at the Agricultural College, Guelph, Canada, on the 10th and 11th of December next.

The co operative experimental work is increasing year by year, as shown by the fact that in agriculture alone, there were upwards of 11,000 plots used for experiments throughout Ontario in 1896 These plots were situated on 2 260 different farms. The Union opens up a channel through which the best material of the Experiment Station can be brought to the homes of the farmers; it makes direct application of information found out at the Experiment Station, by having experiments conducted upon hundreds of farms; and it systematizes the co-operative work in such a way that the results can be summarized and made into valuable reports for the farmers generally. The influence of the Union is potent in bringing farmers in closer touch with the Agricultural College; in fostering kindly feelings between the graduates and their Almamater, and in awakening lines of thought and observation in the minds of those engaged in the various branches of agriculture.

We ask your careful examination of the programme enclosed, and extend to you a very hearty invitation to be present at the next meeting of the Union. We would be greatly pleased indeed if you could find it possible to be with us on this occasion.

Hoping to see you at the meeting, I remain, Yours very truly,

C. A ZAVITZ,
Experimentalist.

A bulletin of the Ohio station tells how seed oats were successfully treated by the hot water method in 1895 and 1896 to prevent smut. It is estimated that Ohio farmers lost not less than half a million dollars this year on account of smuts in oats. The crop from untreated seed at the station showed forty smutted heads out of every 100, while the treated seed yielded a much larger crop entirely free from smut.

FOR TOBACCO GROWERS.

[By H. J. Patterson, B. S., Chemist and Vice Director of the Maryland Agricultural Experiment Station.]

Correspondence of the Progressive Farmer.

There is no plant that is so susceptible to improvement or to injury by fertilization as tobacco; and none of the fertilizing materials have so marked an influence in these respects as do the sources of potash.

Tobacco growers have paid but little attention to the effects of fertilizers on the quality of the product, and it is not uncommon to find that even the manufacturers of fertilizers have but little knowledge upon these points. The deterioration in the quality of tobacco in some sections and the resulting low price is no doubt, in a large measure, due to the prevailing ignorance of both the manufacturer and user as to the effects of different fertilizing elements upon the quality of the product. Again we find that farmers and fertilizer manufacturers often recognize the fact that certain elements produce harmful results upon tobacco and have their tobacco fertilizer formulated accordingly but then they entirely ignore this fact in preparing fertilizer for other crops which are to be grown on land that has tobacco included in its rotation; presuming, probably, that the harmful results are only temporary and will disappear with the other crops grown, but the truth is that the other crops increase rather than lessen the harmful effects of those elements.

Chlorine is the most harmful element, entering into the growth of plants, that tobacco comes in contact with, from the fact that the more of it there is present in a fertilizer or in the soil the more, within certain limits, will the crop take up. Chlorine, when either in the soil or a fertilizer, cannot be neutralized or have its harmful effects lessened by applying other material, but whenever present it is sure to exert its influence. Chlorine exerts its bad influence by making the leaf burn badly—not holding fire well, producing a dark, brittle ash, and also producing an off flavor and aroma.

Lime and magnesia do not have so direct an effect upon the burning quality and they are easily masked by other elements, but they most always have a tendency to make the tobacco ripen unevenly and consequently it cures badly.

The other elements found in potash fertilizers either produce no effect or exert a beneficial influence upon tobacco.

The following potash fertilizers should be applied to tobacco or used in tobacco growing sections:

Muriate of potash is a salt formed by the combination of chlorine and potash, and it comes upon our markets in a pretty nearly pure condition. It contains more chlorine than any other potash fertilizer, and therefore should never form a part of a fertilizer to be applied to tobacco or used in a tobacco growing section on land that may some time be planted in tobacco.

Kainit is a mixture of potash and magnesia, potash and magnesia sulphates, and considerable common salt (sodium chloride) and because of the large amount of chlorides (chlorine) which it contains it should never be applied to tobacco or land that is to be planted in tobacco at some future time

Low grade sulphate of potash (sulphates of potash and magnesia or double manure salt) contains a small per cent. of chlorine but a large per cent of magnesia, sulphate and consequently should not be used in tobacco fertilizers, though infinitely better than any of the previously named potash salts.

Wood ashes some times contain considerable chlorine and the lime which they contain in some cases, will exert a detrimental influence, therefore, notwithstanding the fact that the potash is in the very valuable form of the carbonate, their use for tobacco cannot be recommended.

The following potash fertilizers are recommended for tobacco and for use in tobacco sections:

High grade sulphate of potash exerts a beneficial effect upon the quality and quantity of tobacco to which it has been applied. It contains only a trace of any detrimental element. It furnishes the potash in a concentrated form, containing 50 per cent. actual potash (K 2 O). It is the cheapest form of potash which can be safely used in tobacco culture.

Carbonate of potash and magnesia is a comparatively new form of potash that has been introduced in the fertilizer trade. Experiments so far with this potash salt have given good results. The carbonate is the most desirable form in which to have the potash, and the magnesia carbonate seems to exert little or no influence upon the crops.

THE RELATION OF OTHER CROPS IN THE ROTATION.

In many tobacco-growing sections where other crops enter into rotation, we find that these crops have by their methods of feeding a tendency to increase the harmful effects of the injurious elements, as the following illustrations will show: A corn crop uses about 30 pounds of potash to each pound of chlorine; wheat about 100 pounds of potash to each pound of chlorine; rye about 60 pounds of potash to each pound of chlorine; potatoes 20 pounds of potash to each pound of chlorine; clover hay about 9 pounds of potash to each pound of chlorine! Tobacco varies much according to the amount of chlorine present, taking from 1 to 12 pounds of potash to each pound of chlorine.

From these figures it will be seen that if a fertilizer containing much chlorine is applied that all crops cause this chlorine to accumulate, some of them causing it to do so very rapidly, and that as a result there would soon be found much chlorine present in the soil, and as the tobacco crop is the only one that would take this up more freely than the others, because of its being present in great quantities, it will be apparent to all that if they wish to escape the evil effects of chlorine upon tobacco they must use fertilizers with all their crops that contain either no chlorine or but a trace of it.

PERMANENT PASTURES.

Prof. Bennett, of the Arkansas Agricultural Station, has the following to say on the above subject: In making a temporary pasture for only one or two years the clovers should be used. It is not profitable to sow grasses for pastures unless the pasture is to remain for a greater period than two years. The poorest soil of the farm, especially where land is abundant, is no doubt the best to put in pasture, but it must be remembered that poor, barren soils will not make good grass pastures, though pastures, whether grass or clover, can be made on poorer soils than meadows can If the soil be too poor to bring grasses for permanent pasture it can be quickly improved by sowing Japan clover and grazing it for two or three years; then plant and turn under a crop of cow peas and sow the grasses and clovers that are to form the pasture mixture. Japan clover need not precede the cow peas if the soil is not very poor.

All permanent pastures should be sown with mixed grasses for the reason that mixed grasses ripen at different seasons and grazing will be furnished throughout the year. Hungarian Brome grass, tall meadow oat grass, tall fescue, orchard grass and red clover form a good mixture that ripens at different dates If the soil is not fertile, tall fescue and red clover will not succeed and should not be planted. Bermuda grass is the best summer grass for this soil, but there is no other plant that is commonly sown with it to furnish grazing in winter and early spring. But clover is said to do it successfully. It can be sown every fall if no seed matures, by first scarifying the Bermuda sod with a good harrow. Scarifying should be done every fall to get the clover seed in the ground.

Crimson clover on fertile soil makes good winter and spring grazing. It should be sown in August or early in September if the season will permit.

One of the best plans for hay and winter pasture on poor uplands is to sow fescue grass and cow peas. The fescue will come up in the fall and grow for grazing during winter and reseed in early spring. Cow peas may then be planted and they will come off in time for the fescue to grow again during the succeeding winter. This process can be continued as long as desired. The pea roots fertilize the fescue. This combination furnishes abundant rich cow pea hay and excellent grazing in the winter and spring. The only objection to this plan is that the fescue may not, on account of soil or season, begin much growth until late in winter or early spring

The agricultural depression in England is so great that farm lands will hardly bring any price at all. Farms in remote sections can be had rent free, the renters agreeing to pay taxes, which amount to from $1 to $2 per acre. Gold standard did it.

WHAT GOOD PRICES MEAN.

Men who deal in wheat will remember the fall of 1896, because of the two unprecedented features; the unexpected rise in the market on the eve of a presidential election, and the shipment of the staple from Chicago to Southern ports, writes Dexter Marshall. The first of these phenomena has attracted the attention of the whole world; the second has hardly been noticed by anyone not directly interested in the sale and shipment of grain. And yet this is undoubtedly far more important than the other, since it is the beginning of a new order in wheat shipment. Chicago and St. Louis are the great wheat centers of the continent. At these two cities millions and millions of bushels of grain are massed every year over converging lines of shining steel. From these two cities it is sent to the seaboard In the past the Southern ports of Baltimore, Norfolk, etc., have been supplied from St. Louis, while none of Chicago's shipments, either by rail or water, have been sent to ports south of New York. But this year the continued and determined efforts of the Southern ports aided by certain action on the part of the British Board of Trade and the low railroad freights from Chicago southeast, have tended to divert a part of the wheat trade formerly enjoyed by New York; hence the new departure in Chicago wheat shipments.

It is difficult accurately to calculate the financial benefits of America's wheat crop when prices are fair, but they are enormous. The total crop of 1896 is estimated at 435 000 000 bushels. If the market keeps up and the average price of wheat at the seaboard is 80 cents a bushel, this means the addition of $388,000,000 to the country's wealth. It is true that the farmer does not get all this immense sum, and that the railroads do get a large slice, but the bulk of all the money paid to the railroads, lake vesselmen, elevator and other terminal corporations, for handling wheat, is paid out again at once in the form of wages, to the benefit of those who work with their hands.

In this way a profitable wheat crop benefits almost every class in almost every part of the country. It does not, however, bring the full value of the crop into the country in the form of "foreign gold," for the United States is not only the greatest producer of wheat in the world, but the greatest consumer as well, it being estimated that 375,000 000 bushels are disposed of every year within the boundaries of Uncle Sam's dominions. Accepting this estimate as correct, 60,000,000 bushels of the crop will be available for foreign shipment. That there will be a demand for all this wheat, and more, from abroad, there is good reason to believe, because of the short crop elsewhere. At 80 cents a bushel the inflow of foreign money for this year's surplus would be $48,000 000. This will not be the extent of the cash receipts from wheat this year, however, since the left over surplus from last year amounts to 80,000,000 bushels, which at the same rate, will bring $64,000 000 more, or $112 000 000 altogether. Counting the population of the country at 70 000,000, the wheat for sale outside the United States this year will show from the outside world about $17.40 for every man, woman and child—enough to furnish hats and shoes for all and leave a handsome surplus.

LANDLORDISM FATAL.

In Great Britain agriculture is in a state of collapse and the government is making desperate efforts to remedy the evil. It is admitted that the lack of co operation among the farmers has brought British agriculture to its present condition. In France, where co-operation was begun thirty years ago the six million peasant freeholders have made steady progress. The effect of the societies and syndicates all over the country is shown by the large reduction in the cost of fertilizers and other supplies and consequent larger yields. The present condition of British agriculture is due largely to the landlord system, says the Denver Field and Farm. Peasant proprietorship and co-operation have sustained and built up agriculture in France, and it is realized in England that the example of her neighbor across the channel must be followed to save her farming interests from ruin. One of the best indications of the future prosperity of agriculture in the United States is shown by the fact that our farmers realize the necessity of co operation.