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

₹ol. 14.

RALEIGH, N. C., MAY 30, 1899.

No. 16

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THE PROGRESSIVE FARMER is the Official gran of the North Carolina Farmers' State Hance.



"I am standing now just behind the etain, and in full glow of the coming sneet. Behind me are the shadows on se track, before me lies the dark valley ad the river. When I mingle with its lark waters I want to cast one lingerm look upon a country whose governunt is of the people, for the people, and by the people, -L. L. Polk, July

PRACTICAL FARM NOTES.

Written for The Progressive Farmer by the Editors and Prof Guy E. Mitchell The best sugar industry has led to the invention of an entirely new class d agricultural implements in this With some of these tools it is possible, it is said, for a boy to do as much work in a field of beets as can be done by two men in Germany with their settiquated implements.

Atter a man has grown and har vesed bacrops, the very important question then presents itself: Haw shall be get them to market? If he lives immediately on the line of a rail road, the question is easily settled. But should it be necessary to haul them tracy distance, the condition of the roads over which they are to be hauled is a matter of great conse

Interest in stock-raising is increas ng here in North Carolina the papers are beginning to discuss The matter. Says the Charlotte News:

"Cattle raising is receiving a larger thare of attention in the mountain region and recently several herds have been shipped that the Asheville papers my will compare favorably with Chiig) or Kansas City beef There are as he grazing lands in Western North Carolina as can be found anywhere, and there is room for a great development in cattle raising in that section I toe State. It will pay far better han five cent cotton or even bright bacco at the prevailing prices."

Last year the Agricultural Depart ment sent out considerable sample lots of Paruvian cotton to test its sdaptability to the conditions in the valled States. It grew well enough, but planters wanted to know, after had raised it, what it was good or, le produced a somewhat coarse and yellow fiber. During the present year, experiments are to be made in crossing this species with the long Saple S a Island cotton in the hope of Projucing a moderate staple yellow ther cotton, which, it is stated, will prove very valuable. At the present Implarge amounts of yellow cotton are imported from Egypt for manu facture into "natural wool color" cot ton underwear; in fact the Depart ment is responsible for the statement that practically all this yellow, buff, or natural color" cotton underwear a manufactured from imported cot ton, it is believed that an equally 800d if not better cotton will result trom a crossing of this Peruvian cot on apon the Saa Island species.

It sometimes happens that farmers are led to believe that their potato vines are affected with blight or other diseases, when the trouble has been bigget on by themselves through the injudicious use of Paris green *prays; or, they may even conclude

ing to develop where flea beetles han eaten the foliage. The green or sion, seems to fill a long felt want. arsenic attacks the tissues at such Almost every farmer has some book points, and as a result, more or less on gardening to which he may refer during the late summer and autumn having for their centers the holes eaten out by the flea beetles. By combining the green with Bordeaux mixture, such injuries can be entirely avoided, the Bordeaux acting as a stimulant to the foliage and counteracting the effect | den in the most simple and easy man an application for all foliage plants, in pays better than any other land on the addition to checking a number of farm. No figures have ever been col healthy and more vigorous leaf growth. It has been shown conclusively in a ket garden statistics showed that the duced.

The North Carolina Experiment Station is devoting considerable atten tion to poultry experiments. Prof. Emery tels us that in this spring's tests the Light Brahma has outstripped all competitors. An interesting and valuable bulletin may be expected as the result of Prof. Emery's labors In a recent bulletin we find that the free dom of the fowls on the station grounds from disease is attributed to the fol lowing precautions:

1. All grown fowls are watered in strictly clean vessels twice a day in winter and three times a day in sum mer months, being very careful that in summer all such vessels are placed five times daily.

2. War is waged on vermin con-

3 Good, wholesome, sound food is always given, and at regular hours. 4 Coarse lime, gravel or grit and charcoal are continually before all fowls. O ster shells are also occasionally supplied, but the latter are not considered an absolute necessity.

5. All houses are cleaned and floors limed once a week in winter and two or three times in summer.

6 No food is left lying around to sour, and care is taken to feed only as much as will be eaten promptly.

7. All fowl houses have perfectly tight roofs, and the north, east and west sides are closed to as to avoid drafts. Fronts are covered with wire netting.

As an outcome of Secretary Wilson's visit last year to Florida, where he be came greatly interested in the tobacco curing question, his department has just published report on cigar leaf to bacco, written by Dr. Oscar Loew, a German scientist of the D partment. It has been known that the fine flavor and aroma of the Florida and Cuban tobacco was due to some action in cur ing, to which more Northern tobaccos are not subjet. Some years ago a scientist, Suchland, claimed to have discovered that the changes in tobacco which occurred during the curing pro cess were due to bacteria and extensive experiments were made. These supposed bacteria were transplanted from place to place in order that they might spread, and even large amounts of Cuban soil, supposed to be infected, were transplanted to distant palces. much as Japanese soil has been im ported for the purpose of bringing with it the bacteria which produces the tubercles on the Soy bean and thus makes it a nitrogen gatherer. Such land prepared pure cultures or mi crobes found upon different kinds of topacco and by transplanting those obtained from Havana tobacco to German tobacco expected to develop the Havana aroma in the German tobacco. Dr. Loew, however, now proves that the so called tobacco fermentation is not caused by bacteria, but rather by natural ferments and that while some spores may of course occur upon tobacco leavis, as upon any substance, they in no way affect the fermentation of the leaves in the curing process. Having reached this conclusion and also observed the fact that while these fermentations take place in Florida and Cuba curing of tobacco, they do not in Northern curings, Dr. Loew will devote himself to investigating methods which will enable Northern growers to secure these fermentations and thus impart the desired aroma to their tobacco. The investigation may prove of much benefit to tobacco grow

A timely farmers' bulletin which is that the use of the spray has induced Publications of the Department of Agri the blight. Injuries to the leaf result | Culture is entitled the Vegetable Gar | crop stock can be gotten into good con- ment, and requires practically the Shaw, University of Mimmesota.

im the use of this spray are den. It is written by Mr. C. H Great house, and to use a hackneyed expres circular, brown spots are produced, from time to time, but it is usually too months, as is too f equently the case." much of a study to bother with. Here, however, is a short, concise pamphlet further information regarding this of 25 pages c. ntaining the experience crop should send postal card request of the most pactical and informed men | for Circular No. 12, "Rape as a Forage and treating the subject of a farm gar of the poison. Bordeaux mixture, as ner. The farm garden undoubtedly fungus diseases, is a specific to induce | lected to show what value its products are, but in the census of 189) the mar number of instances that it pays to average value of garden stuff to the apply Bordeaux, if for no other reason | acre was \$147 17 as against only \$11 65 than the more generous growth in | for wheat while the general average for the grains and hay was shown to be only \$7 75 per acre. The homegar den, however, is worth even more than present Commissioner of Agriculture, this as it is not subject to the heavy losses incident to marketing perishable sioner elect has never taken any incrops. Its products are used direct on terest in farmers' organizations makes the table and there is therefore very the following paragraph from the little need for waste. Not everybody Springfield, Mass., Farm and Home, of realizes fully the value of a first class special interest to North Carolina garden. The mind reverts pleasantly farmers at this time. The clipping to Irving's description of Ichabed says: Crane and the old Dutchman's well stocked farm and bountiful garden. The entire place groaned with plenty and every available place in shed, cel lar, barn and house was filled with the products of the field and garden against the needs of winter. In these days of big money crops the garden is very apt in the shade. Young fowls are watered to have to take care of itself largely, people sometimes failing to realize that in a good garden is more than half the living of the family. The bulletin in question is about as good a short discussion of the garden plan with general suggestions for preparing and

> E sewhere in this issue we give an interesting article on rape culture. This plant is rapidly rising in the estimation of the farming public. As yet, little of it is raised in North Carolina, but it has been grown with marked succ sa at the Experiment Station at Raleigh and Pro!. Emery tells us that he is confident that North Carolina farmers will soon real zo its value and grow it extensively. A recent bullatin describes rape thus:

planting as can be found. Some re

marks are made on hot beds, cold

frames, mulching, irrigation and in-

secticides, and special vegetable crops.

intended for free distribution through

mambers of Congress or Senators

Send for one.

"Rape is much like the Swedish tur nip or rutabaga in appearance, but the root is more like that of cabbage. The leaves are large, glaucous, smooth, spreading, and variously notched and divided; the flowers are bright yellow, one-half inch in diameter; the seeds are produced in pods usually 2 inches or more long.

"Under ordinary field conditions the plant reaches a height of from 11 to 4 feet, and the strong-growing roots penetrate the soil to a considerable depth

"Rape is either annual or biennial The annual varieties (summer rape) are grown chiefly for the seed, and have not been much cultivated in this country. The biennial varieties (winter rap) are used largely for forage.

For its best development rape requires a rich, moist, loamy soil, and will usually do well on any but light but these are the principal breeds sandy soils and stiff clays, such soils being usually deficient in vegetable swine, especially in the warmer parts matter. In general a soil that will of the State, as they show chapped on prairie soils rape seed is mixed with the diseases and has published bulleproduce good crops of turnip, cabbage, skin more frequently than others. wheat, and corn will be suitable for

makes an excellent feed for fattening | ticular breed. sheep and swine and for producing an abundant flow of milk in milch cows. to the writer mainly one of fancy. On account of danger of tainting the fed in pens for market or for the show or three weeks, a continuous succe: - race. sion of rape can be produced throughout the period when the permanent regarding Kaffir corn also received. pastures are most likely to be short. weather and thus will last a long time just off the press from the Division of after the ordinary pasture grasses suc-

dition for the holiday markets or for winter and there need be no check in ture and nursing when small. Here growth, fat, and milk production through insufficient succulent food

Crop" to his Senator or Representative in Congress

AGRICULTURE.

POLITICS AND BOARDS OF AG-RICULTURE.

Correspondence of The Progressive Farmer. Your editorial on "Cotton Spinning vs Farming at the A & M. College,' together with the fact that the State Alliance at its last annual session pro tested against the retention of the and the further fact that the Commis-

"It is likely that the Connecticut Board of Agriculture will be taken out of the farmers' hands and be composed of politicians chosen by the legislature or appointed by the governor. That is practically the rule in Pennsylvania, where the secretary of agriculture has just been removed by the governor for political reasons. Even in New York, the farmers have practically no voice in their State Department of Agricul ture. This is all wrong. The right method is used in Ohio, New Jersey, Massachusetts, Maine and some other States, where the farmers through their various organizations elect the members of the State Board of Agri oulture and thus keep the board in close touch with the working farmers. Being a farmers' bulletin (No 94) it is This makes the board a genuine agri cultural affair, whose good work goes forward irrespective of whether a Re publican, Democrat or Populist hap pens to be governor. There is no good reason why the governor's politics should rule the State Board of Agricul ture Farmers should insist upon their right to directly control what ever aid the State extends to their in terests." AGRICOLA.

ABOUT HOGS AND ABOUT KAFFIR

CORN.

orrespondence of the Progressive Farmer.

There are a number of improved breeds of swine, all of which are well suited to North Carolina wherever they receive attention enough to call into use the acquired habits of growth in which the improvement consists.

the best blood of any breed and neg lect it. Fine stock has not been imcommon stock which has survived by its ability to "root." The improved ancestors which have given it ability to use a larger amount of food to bet ter advantage than an unimproved pig can do. We must remember this and feed accordingly to reap an in come from an investment in good live stock of any kind beit pig, cow, sheep, horse or chicken The common improved breeds are Poland China, Essex, Berkshire, Jersey Red, Chester White and Yorkshire. There are a few others, There is some prejudice against white pigs of any of the above breeds than "Rape has a high feeding value. It there is in a man's fancy for some par

Therefore the choice of breed seems

We expect to get the North Carolina milk many people do not feed it to the Swine Breeders' Association together cows until after milking. Rape can be again soon and in its report of proused to good advantage as a part of ceedings to have the good qualities of the ration for animals that are being | the different breeds extolled by breeders who can give their reasons for bering. It is also a valuable food for lieving the special breed advocated is young lambs at weaning time. By be | the best. These papers will be valuable ginning as early as practicable in the as they will cover about every point in spring and seeding at intervals of two which a pig is of value to the human

The inquiry of one of your readers

Kaffir corn can be grown as easily as Rape will endure quite severe cold sorghum, of which so many people grow enough for their own 'sweetening." Kaffir corn belongs to the same cumb to the frost By the use of this family, responds to the same treat-

same soil conditions and careful cul we cannot grow it profitably in plats because of the attacks of the English sparrow or house sparrow.

They rob our sorghum of seed and Those of our readers who desire do other damage. Farther from towns and where large areas are cultivated they may not do harm enough to be Yours sincerely,

> FRANK E EMERY. Agriculturist N. C. Exp't Station.

----RAPE CULTURE.

The Dwarf Essex rape plant is prob ably the most valuable addition that has been made to our list of forage plants within the last hundred years. When I first wrote concerning it, in the American agricultural press in 1891. I said the day would come in the United States when 10,000,000 sheep and lambs would be fattened on rape annually in this country. The fulfill ment of this prediction is assuredly near at hand.

This plant will grow in any kind of good land, but it grows best of all on muck and swamp soils. Poor sands and stiff clays are least adapted to its culture. Good corn land will answer very well, and the same is true of the average prairie soils. It may be sown any time after the opening of spring and before the advent of autumn, pro viding there is moisture enough in the land to sprout the seed, but it is more common to sow after May 1st than earlier. This plant can be grown to perfection in any State in the Union during some portion of the year as it usually reaches its growth in from eight to ten weeks from the time of planting. But it is better adapted to cool and moist climates than to those that are hot and dry.

It may be sown as a catch crop or as the sole crop grown. Two crops may be sown in one year on the same piece of land. It may be made to follow winter rye, pastured, or cut when mature; and it may in many instances be made to follow wheat and barley, the first cutting of clover, strawberries and garden truck, and unless on stiff soils, it may be sown along with grain to provide autumn pasture after the grain is cut. It may be sown alone or in combination with such plants as rye, corn and sorghum, but it is usually preferable to sow it alone, except when it is seeded to clover. On prairie soils clover sown along with rape will make a good stand. The pasturing will help rather than hurt the clover.

This plant is sown broadcast and without cultivation, or it is sown in drills, from twenty to thirty six inches apart, and cultivated like corn. On stiff soils it should be sown in rows. On the rich soils of the prairie it will grow very well when broadcasted. It will not profit a man much to buy | The rows may be on the level or raised. The plants are not usually thinned. The cultivation in rows is the same as proved to thrive in a "rustle" against | for rutabagas or mangels, except that the plants are not thinned. When sown alone and as the sole crop the pig has had a generation of well-fed land should be cleaned by harrowing and reduces the fruitfulness of the occasionally on the upturned surface | plants. The disease is not a true rust, from the opening of spring until the seed is sown. When this process is being the accepted popular name it is followed up by cultivation in rows used so that the disease may be underrape becomes a most excellent cleaning crop. Two pounds of seed to the acre is ample when sown in rows. Usually half that much will suffice. Three to five pounds will answer when sown broadcast. Any method may be adopted in sowing broadcast that will answer when sowing clover seed. It former botonist of the Alabama Stais usual to follow with one stroke of tion, now at Cornell Station in New the harrow. When sown with grain | York, Doctor Atkinson, has studied the grain at the time of sowing the tine in regard to them. He says in re-There is less difference in growth of | grain. The plants remain diminutive until the grain is cut. In good seasons, and especially on prairie soils, they soon make much growth. From one to two pounds of seed are sown with the grain. Thousands of acres are thus so wn on the prairie every year.

In the East, and indeed on all soils low in fertility, rape ground should be enriched before sowing the seed. It cannot be injured by piling on farm yard manure. It responds nicely to applications of phosphates and super phosphates out in at the same time as the seed. But usually there is fertility enough in the black soils of the prairie to grow good crops.

when animals are first put upon it. There is danger from bloating, and when it is wet there is more danger. It is excellent for horses, cattle, sheep and swine either as pasture or as soil ing food, but will taint the milk of dairy cows unless fed with caution. It is more commonly grown to provide pasture for sheep and swine. - Thomas

COTTON RUST.

The rust of cotton is produced by the growth of microscopic fungi. The attacks of the fungi are generally induced by any sudden check to the functions of the plant resulting in a lowered vitality. These fungeld forms are variously known as black rust, yellow leaf blight, and Mosaic disease. It may usually be prevented by the amelioration of the soil conditions, such as giving better drainage, and applying the plant food in suitable amount, and especially by applying fertilizars with a high percentage of potash, writes F. S. Earle, in an Alabama bulletin.

It has been well demonstrated, not only at the Alabama Station, but in the experiments in soil improvements in the South, that the cheapest and most available method of soil improvement, is by growing the cow pea in regular rotation with the cotton and other crops, so as to increase and maintain the humus contents of the soil, and to furnish the needed nitrogen at a lower cost and in greater abundance than would usually be applied in a fertilizer, and by supplementing the leguminous crops with the mineral fertilizers in the form of phosphoric acid and potash, and by the equally important means of renewing humus, by the feeding of these legumes to stock on the place and saving and ap plying the manure thus made, broadcast on the land Where a regular rotation is practiced and the soil dressed once in each round with home made manure and the peas helped with the mineral fertilizers, there will be a rapid up grade improvement in the fertility of the soil, and in the production of all crops, and such vigor will be given to the cotton that rust and all kindred diseases will be of rave occurrence. On the sandy soils that are particularly deficient in potaso, it has been found that an application of potash, in the form of kainit especially, acts almost as a specific against the attacks of rust. While the general opinion seems to be that kainit is the best form, the present bulletin gives the opinion that sulphate of potash, muriate of potash and kainit seem to be equally effective in proportion to the percentage of potash they contain. If this be true, then the more concentrated forms are the cheaper to buy, since in freighting kainit that has but 12 per cent. of potash, the actual potash soon gets much more costly than in freighting sulphate or muriate that has 50 per cent. of actual potash. The muriate is usually the cheapest form in which to buy

The disease is very common and makes serious injury on the sandy soils of Central Alabama. It causes the spotting and premature falling of the leaves, and as healthy leaves are essential to the performance of the vital functions of the plant, their loss gives a serious check to the crop, and greatly shortens the growing season, such as attacks the small grains, but stood. The popular name rust is used to indicate the disease made by several different forms of fungi, and the study of the disease and its prevention have occupied very properly the attention of the investigators, not only in Alabama, but in other cotton States. The gard to the Mosaic disease and yellow leaf blight that "the later stages of this disease probably form the larger part of the troubles which are termed "Black Rust." He found that spraying with Ean Celeste, Bordeaux mix ture and copper sulphate was ineffectual in preventing the rust, and the experiments confirmed the conclusion that it was induced by physiological causes. In an experiment on three plats on which cow peas had been grown, kainit and acid phosphate were applied without any nitrogen on one plat. Another had nitrate of soda and acid phosphate, but no potash. An-Rape must be pastured with caution other had a complete fertilizer. There appeared in July a yellowing of the foliage on first plat, but not the peculiar appearance of the disease, and only a few plants showed signs of the disease when matured. The yellow color was evidently due to premature

[CONTINUED ON PAGE 8]