THE PROGRESSIVE FARMER

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

Vol. 15. Raleigh, N. C., June 26, 1900. No. 17.

Agriculture.

FORAGE CROPS THAT MAY YET BE PLANTED WITH PROFIT.

Prof. Johnson Tells How to Bridge Over the Summer Season—Peas, Millets and Sorghum Should be More Generally Grown.

Correspondence of The Progressive Farmer.

During the next few months stock cattle, dairy cows and young calves are apt to be neglected and allowed to shift for themselves. Where either the native or cultivated grasses and grazing plants are in great abundance, the stock will bear this neglect with but very little inconvenience or check in growth or shrinkage of milk flow. But when the range is limited and the grasses are insufficient to meet the demands made upon them, the stock suffers a check in growth and milk yield which requires many months of liberal feeding to overcome.

It is also of much importance that the cattle have a good supply of water at all times. Poorly fed and thirsty animals are especially liable to fall ready victims to disease. Guard against losses of this nature by making the stock comfortable, by supplying water, salt, and sufficient food to meet their requirements.

The careful stockman will make a special effort to see that the pastures are not overstocked. It is by far better to keep ten animals on a pasture able to keep them growing nicely than fifteen underfed scrubby ones making no growth and consequently paying nothing for the food consumed.

It is not yet too late to make some provision against the time of short pastures. Peas sown thick on well-prepared land will be of considerable value in tiding over a short drought. This matter should not be neglected longer though, if the best results are expected.

Millet may be used to advantage in many sections. It will give better results for grazing when sown broadcast, using rather liberal seeding, but if it is wanted for soiling purposes, it had better be planted in drills about twenty to thirty inches apart, using pearl or broom corn millet seed at the rate of from two to three quarts to the acre. This will give a good full row, which should be cultivated two or three times with a fine-toothed cultivator set to run close to the plants and not more than two or three inches deep. Millet is a hot weather plant, starting off as it does better when not planted until the soil is thoroughly warm and well prepared.

The millets are surface feeders; that is, their feeding roots are close to the surface, and are benefited by liberal top dressings of complete fertilizers. Maximum crops of this plant are harvested only from soils containing an abundant supply of the three chief constituents of complete fertilizers in an available form. A crop of ten tons to the acre of millet forage will take fifty pounds of nitrogen, twenty-five pounds of phosphoric acid, and one hundred and ten pounds of potash from the soil. It is folly to plant poor worn-out land in this crop with the expectation of getting a heavy yield.

Sorghum is of much value as a crop to be cut and fed green. It should be planted within the next ten days in drills about thirty inches apart. There should be one stalk to every three inches of the row. Cultivation and fertilization should be the same as for silage or fodder corn. When the sorghum plants are four or five feet high it is ready to begin cutting to feed green. If cut at this stage new shoots come out from the stubble, affording two or three cuttings in the course of the season.

Dairy cattle are very fond of this forage, the feeding of which at this college nearly always results in increasing the milk flow. We have had no bad results in our feeding sorghum, but others have lost some animals. This, however, comes from feeding the plant while yet quite small. While less than three feet high sorghum sometimes contains an unknown matter which poisons cattle eating it, resulting in speedy death. We recommend well-grown sorghum to be used for soiling purposes, but under no conditions would we allow cattle of any kind to graze on it while under three or four feet high.

Peas, millet and sorghum are worthy of more general cultivation on dairy and general stock farms throughout the South. For best results the millets and sorghums should be planted by the middle of May, but fair crops are often secured from plantings made as late as the middle of July. Sorghums and millets are rather hard on the soil, so they should form a part of a crop rotation in which peas and vetches take a prominent place.

J. M. JOHNSON,
N. C. Experiment Station.

Do you regularly receive the bulletins issued by the experiment station of your State? If not, why so? You can secure them without cost by addressing a card to the director or merely to the Agricultural Experiment Station. No farmer should fail to read these valuable publications which are furnished him free.

AFTER HAY HARVEST, WHAT?

Prof. Massey Discusses a Subject of Interest to Farmers Generally.

Correspondence of The Progressive Farmer.

The grass has had its first cutting, and the observant farmer will have to consider what is best to do to help on the second growth. Now is the time when your home-made accumulation of manure wastes faster in the stables and barnyard than at any other time of the year. It dries up and firefangs worse by far than at any other season, and no matter whether it is kept under shelter or is fully exposed, it will be losing value if not cared for. The general recommendation is to use plaster as an absorbent, and this is all right if there is not too much dryness already in the manure. The plaster is not going to check the flight of the ammonia unless it is dampened, and can bring about chemical changes, for dry plaster is no better than dry dust of any kind.

The best plan is to get the manure out on the grass stubble as fast as made. But in many cases this is not practicable in the busy summer time, and the next best thing is to see that the manure loses no more than can be helped The best plan we have ever tried is to mix kainit and plaster and give every part of the manure a good sprinkling as it is thrown out of the stable. Then if it is to remain in the yard any time put it in flat piles and on each layer, as put up, sprinkle more of the plaster and kainit.

The salt in the kainit has a strong affinity for moisture and will not only tend to keep the manure moister and give the plaster a better chance, but it will be adding what the manure lacks most—potash. Then when that manure is hauled out on the grass stubble, where it should go as soon as possible, you have a dressing that will do far more good than ordinary manure, for the plaster and kainit will also have tended largely to the retention of the ammonia in a non-volatile form. All the mowing lands should have a dressing as soon as possible after hay harvest, and no matter how large the accumulation of home-made manure may be, it is seldom sufficient to go over the whole. Then the judicious use of fertilizer mixtures comes into play, and it will pay you to use them.

The best dressing we have ever used on grass lands is a mixture of nitrate of soda, raw bone meal and muriate of potash. Of course, the phosphoric acid in the bones is not as immediately available as that in a dissolved superphosphate, but it comes into play much sooner than other forms of the so-called insoluble phosphoric acid, as the bone meal decays rapidly, and the plants are fed more continuously and gradually than with the dissolved phosphate. Then, too, the bone meal, if a good article, contains about four per cent. of nitrogen, which is quickly available. Then if we add to this some of the immediately available nitrate of soda we encourage a rank growth at once.

During the growing season is the only time that the nitrate should be used, and nitrogen is one of the most important elements for grass, as it encourages the leaf growth rather than the seeding. But we want more than this. We need the phosphoric acid to tend to the perfection of the plant, and to make the potash we may use more active and available for the plant, for it has been found that potash does not have its best effect in the deficiency of phosphoric acid. Hence we want to make a fertilizer that will be complete, and that will as nearly as possible substitute the lack of the stable manure.

To this end we should mix for a ton of fertilizer to be used as a top-dressing for grass meadows (and the permanent pasture will also be greatly improved by the same dressing) say: Fine raw bone meal 1,200 pounds, nitrate of soda 400 pounds, and muriate of potash 400 pounds. Use of this mixture not less than 300 pounds per acre. It is best to apply it while the grass is dry and a little while before rain. We used a similar mixture on our College lawns this spring, and result has been exceedingly fine, and we propose to repeat the dose of the nitrate to keep up the growth.

Of course there is a greater reason for top-dressing meadows than there is for top-dressing lawns, for nothing is removed from the lawn, the cut grass being allowed to lie and form a mulch for the roots, while the crop is taken away from the mowing field and if its productiveness is to be kept up and increased, there is a real need for feeding the grass. If the grass is to be plowed next year for corn or potatoes, it is all the more important that the dressing should be given now, for you will not only get a heavier second crop of hay but you will be accumulating far more of vegetable matter and organic nitrogen for the corn and potato crop; and then, too, as the potato and corn crops both make large quantities of starch, and potash is an essential element in the formation of starch it is important that it should not be deficient.

But frequently the addition of potash in a caustic shape to the immediate crop may retard the germination of the seed, while if it is applied some time in advance it becomes assimilated to the soil and is in a better condition than if applied to the crop direct. You need not be afraid that the phosphoric acid and the potash will get away from you any more than the crop will use, for the soil will hold on to them till the plants call for them, while the nitrogen, in the form of nitrate, must be used at once by the plants or it will leach away from you Hence, while the corn crop needs nitrogen and potash more than anything else, it is well to have the nitrogen in the shape of organic matter that will nitrify during the long hot season when the corn is growing.

We have never found it profitable to apply a complete fertilizer to the corn crop. The nitrogen bought in a fertilizer costs too much for the corn. Hence we have always tried to accumulate organic matter for the corn and to simply aid it in its work with the addition of the mineral elements needed. And there is no better way to do this than through the grass sod you are going to plow for corn next season, for in this way you may get the cost, or near the cost, of the fertilizer from the hay crop and the corn will be helped free of expense.

W. F. MASSEY.

Raleigh, N. C.

When I read the story of forty years ago by old men who say with great delight how they climbed the ladder and secured homes and property, I fail to see in their advices any encouragement for the young men of today, for conditions are wonderfully different now, and the young farmer who begins at the bottom nowadays has greater difficulties to surmount than the young farmer in the 50's or 60's. Take encouragement from young farmers and regard as good the advice from old farmers only who urge energy, intelligence, honesty and determination as the all-essentials.—DeWitt C. Wing, Des Moines, Ia.

"THE BRICKBAT CROP."

Our readers doubtless remember two or three excellent articles contributed to this paper during the past year by Mr. J. B. Hunnicutt, of Georgia. Mr. Hunnicutt is now editing the Southern Cultivator, and the last issue of that paper contains the following thought-provoking article from his pen:

The editor has enjoyed a few days outing among the farmers. Some of the sights are worthy of record, because they teach valuable lessons. The extraordinary wheat crop was a pleasing sight upon which our eyes never wearied feasting. The wave ripples and the glinting sunlight were enough to inspire a poet. Not little patches, but broad acres. Great fields—mile stretches of the grain that furnishes the staple bread product of this great nation abounded everywhere. The Southland is not dead. It has only been taking a nap. It has not lost the power to produce wheat. Only give it a fair chance and you will see.

A LESSON FROM THE WHEAT.

We saw fields that will yield from twenty to thirty bushels per acre, and, right along beside them, fields that would not yield ten bushels. The same soil and climate. Then why this great difference?

The answer is easy to find. The preparation was different. One field had been so plowed as to have plant food ready for the tender roots. The other had been so scratched that the plant food was all locked up in clods and hardpan. The wheat roots could not get it, because it was not soluble. Plenty of it was there, but being insoluble it could do no good. The wheat could not violate the *law* of its *life* and use solid food.

When will our farmers learn this great lesson: That the soil must be pulverized before it will give up its plant food to the little roots.

THE BRICKBAT CROP.

The largest crop we saw in cultivation was the *sun dried brickbat crop*. The land had been plowed when it was too wet. The spring winds and sunshine had done their work, and the fields were filled with millions of all sizes and degrees of hardness. None of these, whether as large as a No. 7 squirrel shot, a cow pea, a marble, a walnut, a man's fist or a man's head can do anything toward producing a crop. They are not only useless but a direct hindrance to the roots in seeking food for the growing plant. No crop can get nourishment from a clod. Only that part of the soil which would pass through a fine sieve will help any in making a crop. How much of your soil will do this? Only that much is helping you to grow crops. Everywhere, on hills and in valleys, on upland and lowland the fields were filled with these sundried brickbats. The only legitimate result was everywhere apparent. The crops are small and the plants feeble.

Occasional exceptions furnished strong proof of the above truth. Wherever a field had been rightly treated, the crop was fine.

THE CROP OF HARDPAN.

Just under a few inches of clods and soil we found the *hardpan*. This was the rule. In very many places the Heaven-sent blessing—rain for the watering of the crops had washed off the little scratched-up soil and the hardpan was on top. Gullied hillsides greeted us everywhere. Where this had been the case much of the little plowed soil had lost all the soluble part by washing, and only the coarser insoluble particles were left.

When will our farmer friends learn to plow deep enough to break up this hardpan and stop all this washing? When will they quit plowing up and down hill and go only upon a level? Good farming must begin here. We hope the day is not far distant.

Never plow when the soil is wet. Always plow deep when preparing your land. Break up the hardpan and pulverize the clods now in your fields as soon as possible by using all kinds of harrows, rollers, drays and dust brooms. Get your soil deep and fine. Then you can and will get large crops. We shall continue this subject until the farmers get the lesson.

MORE SILOS NEEDED.

In Bulletin 122 of the New Jersey Experiment station is a report of an experiment to test the comparative value of dry fodder and silage, including the grain. The rations were so arranged that fully one-half the total dry matter was furnished either by the silage or the dry fodder and grain. The station reported a yield of 12.8 per cent. more milk and 10.4 more butter fat from the silage than from the dry feed. The fodder corn, ears and all, was run through the feed cutter.

Give your horse grain in a large surfaced feed box, or use an iron one with an irregular surface modeled in; he will not fill his mouth so full, chewing his food better.

FROM MECKLENBURG.

Correspondence of The Progressive Farmer.

"General Green" being well in hand on my farm now, I will give a few notes from Mecklenburg for the benefit of Progressive Frrmer readers.

I notice that you report a general scarcity of farm hands. Such is certainly the case here in Mecklenburg. I think the labor shortage is between twenty-five and thirty-five per cent. The oat crop was poor but wheat was never finer here. I was much interested in the article on "The Canning Industry" and the article and Professor Emery's comments on "Shedding Corn." I would like to hear more regarding the latter subject.

I would also like to know what forage crops can be most profitably grown on the land from which we have just cut oats or wheat. S.

Mecklenburg County, N. C.

[The inquiry of our correspondent is well answered by Prof. Johnson in his article on this page.—EDS.]

Don't set a hen in the same place where one brood has been hatched without dismantling the nest and rebuilding it out of fresh material. A setting hen is a veritable louse factory, and a nest so occupied continuously for six weeks is likely to result in an overproduction of a product for which the poultry man has no use.

A FEW FARM NOTES.

Correspondence of The Progressive Farmer.

You are asking farmers to write oftener for your paper and I am sure we ought to do so, for there's no better way to educate ourselves and build up agriculture than by exchange of experiences, co-operation, letting all profit by the mistakes or successes of individuals. And the Progressive Farmer being published especially for farmers and by men that are devoting all their time to developing agriculture, every farmer should feel at home in your columns.

I want to put the farmer on his guard against the wiles of the "lightning rod man," who is now going his rounds in the rural districts equipped with "a reel of twisted wire ribbon, some alleged insulators, a few gilded points and spikes, and an enormous quantity of impudent loquacity."

A leading magazine and authority, the Electrical Review, warns its readers that the lightning rod as a protector has been much over-estimated, and that in the case of many of those purchased from the agents aforesaid its value is nearly or quite nothing at all.

I find sheep return me more money for time and money expended than almost anything else I handle. It is true, as has been said, that on any small farm a flock of twenty-five to fifty good sheep will furnish the family with all the mutton they will want, and the surplus and the wool will sell for enough to pay the taxes and buy the sugar and coffee; and, besides this, the value of the manure and the benefit of the sheep in destroying weeds will pay for their keep and shearing. And yet a majority of farmers prefer to get along without sheep.

With best withes for the Progressive Farmer,

AGRICOLA.

Northampton County, N. C.

"SUCCESSFUL FARMING."

This is a book by Wm. Rennie, Esqu., for some years the successful Farm Superintendent of the Ontario Agricultural College Farm.

Mr. Rennie is a past master in the line of his life work. He has put some of his experience and knowledge in this work for the benefit of others. The work is written particularly for the province of Ontario, but it is suited, in the rotation its author advocates to quite an extension in United States. Western North Carolina farmers can profit materially from a thoughtful perusal of this book. While its course of procedure would not fit Eastern North Carolina conditions, a knowledge of how success is attained in Ontario would be well worth knowing and on many a page an Eastern North Carolina farmer could gather hints worth picking up.

The chapters on farm buildings, and live stock are brief and helpful to those who have had little experience in building or breeds of live stock.

The profuse illustration is helpful as giving graphic pictures to the eye of tiles, implements, tools, buildings, fruits and unfamiliar breeds of live stock.

The short, comprehensive chapter on book-keeping at the end should be worth the price of the book to many a young farmer who has had few advantages to learn accounts in school.

The price of Successful Farming is $1.50, and may be had from this office. Address all orders to The Progressive Farmer, Raleigh, N. C.

The good dairy cow will not fatten easily, nor is it desirable that she should. Her object in life is to convert feed into milk, not flesh.

SORGHUM FOR SOILING.

A number of people all over the country believe that there is some kind of a poisonous principle in green sorghum that will kill cows; and acting on this belief they deprive themselves of the benefits of this splendid crop throughout the summer months.

Cows are provided by nature with four stomachs. The first, and by far the largest one, is for storing the food rapidly while eating, to be brought back to the mouth later by rumination for mastication (chewing the cud) and then to the other stomachs for digestion.

Rumination is brought about mainly by contraction of the walls of the first stomach, and if a hungry cow is given all the sorghum she will take the first time she is fed on it in the summer, she often eats so much that the stomach is distended to such an extent that the power of contraction is lost, so that the whole process of rumination and digestion is stopped, fermentation sets up immediately, gases are rapidly formed, and unless prompt and heroic measures are resorted to the animal dies in great agony.

The same thing occurs very often from eating clover, pea vines, etc., but oftener from sorghum because it is sweeter and fermentation is more rapid.

Give only a small quantity for the first few feeds, gradually increasing the amount to all the animal will take. Fed in this manner no fears need be entertained for the result. Sorghum in many respects is the best soiling crop we have, and it is just as well to get the benefits from it.—Exchange.

The Oklahoma Experiment Stat made some forage tests, and the yield of digestible ma acre as follows:

Kaffir corn.....
Indian corn.....
Small sorghum....
Large sorghum
Black River
Milo maize.

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