



Established 1871.

RALEIGH, N. C., TUESDAY, OCTOBER 2, 1900.

Vol. XXIII. No. 51.

NOTES OF THE FARM.

By W. F. MASSEY, of A. & M. College.

It is just about to sow some crimson clover seed on wheat stubble. Do you advise planting them in with a disc harrow without plowing the land? The rag weeds are about two feet high and I do not think the harrow will kill all of them. Will the weeds crowd the clover out, or do you think it best to plow the land, seed with a few VirginiaTurf oats? This is from Caswell county. Crimson clover can be sown and do well on a wheat stubble with no preparation at all. Not that the lack of preparation is any advantage, but because of the shade of the stubble which protects the young clover from the sun. But a case where the rag weeds are two feet high is very different, and I fear that the shade will be too heavy. Then, too, the living rag weeds are not like the dead stubble, for that is taking no more moisture from the soil, and at this season the clover needs all it can get. I would not plow that land nor harrow it, but I would put the mower on there and mow the rag weeds and rake them off before sowing the clover. Rag weeds are worth saving for hay anyway and you will lose no labor. Only do not give rag weed hay to cows in milk, as it will give the milk a bitter taste. Dry cattle will thrive very well on the rag weed hay, and by mowing them before they seed you will prevent their stocking the soil again. If you will always make a practice of mowing the stubble when the rag weeds are blooming you will create no rag weeds to mow. After mowing and taking off the rag weeds, I would simply sow among the stubble 15 lbs. per acre of the crimson clover seed. I have time and again, sown it thus, and have seen it on a thin grass sod and on a wire grass, sod, and it has always succeeded. I have a Bermuda grass pasture on which I intended to sow the clover. The Bermuda makes no growth in winter and the clover will be off before it needs the light in spring. I have tried this two years in succession on a small piece of land and the clover succeeded. I would like to try the same thing on a larger scale. The objection to Bermuda grass as a permanent pasture grass is the fact that it is a hot weather grass only. With something that will keep up some growth in winter it is all right. Texas blue grass does well with it, but where we simply try to get a green bite in spring before the grass starts the crimson clover will fill the bill. I advise you not to plow or disc the sod unless you prepare the land well and sow oats on it before sowing the clover, so that as the clover comes up the young oats will be there to shade it. And even in this case I would prefer to take the chances of the stubble. I am going to sow on a pea stubble where the peas have just been mown. There is a good deal of crab grass on this land, and I will use it to check the crab grass somewhat and then sow the clover with as much trash on the surface as the harrow will leave. If the crab grass was taller I would mow it and sow the seed without harrowing.

From Durham, N. C.: Does fruit, say apples and peaches, for perfect development, require much acid phosphate. If so, what would be the cheapest source to obtain it? I suppose that you mean to use phosphoric acid when you wrote acid phosphate. Acid phosphate is a name given to the superphosphate made by dissolving phosphatic rock in sulphuric acid, and as much as possible of the phosphoric acid it contains, soluble in water. Phosphoric acid is of less importance to fruit than nitrogen or potash, but the soil should of course have a fair percentage of it at hand and available if any plant is to thrive. The fruit of the apple contains less than one hundredth of one per cent of phosphoric acid, while it contains nineteen hundredths of one per cent of potash and thirteen one hundredths of one per cent of nitrogen. You will see then that the relative importance of the three food materials puts the phosphoric acid lowest. The best and cheapest way to give the trees the phosphoric acid they need is to use acid phosphate as part of the fertilizer mixture for the orchard. A crop of apples or peaches will remove more plant food from the soil than three crops of wheat, and still people wonder that their orchards fail when they never think of feeding the trees.

But remember in feeding an orchard that there are few if any roots capable of using food right about the base of the tree, but that the greater part, in fact nearly all the feeding roots, are away out where the limbs drip. Therefore get the fertilizer where the trees can get it. You can supply all the nitrogen the trees need by sowing peas in July after cultivating well in the early part of the summer. Let these peas die on the land, and plow them under in the spring and then add a dressing of 200 pounds per acre of a mixture of acid phosphate and muriate of potash. The acid phosphate will have about 13 per cent of phosphoric acid and the muriate will have about 50 per cent of potash. Put four parts of acid phosphate to one part of the potash.

From Guilford county: "What is the best plan for training or pruning the suppurating grape?" The common impression does not need any pruning, and that if you prune the vine it will bleed to death. Both of these impressions are wrong for there is no plant that pays better for good pruning and training than the suppurating and all of its class, such as the Mich. James, etc. What is needed is to keep a supply of good long canes of at least two years' growth for the suppurating does not make fruit on one year wood as the bunch grape does, but from the two years wood. The pruning needed is to keep the spurting we give the bunch

grapes, but the taking out of the old and gnarled wood and keeping the younger should be done in the fall as soon as the leaves fall. If not done then, it will be better to defer till leaves are opening in the spring, so that there may be growth enough to take up the sap and prevent disastrous bleeding. Never prune a suppurating vine in winter as there is then serious danger that it may die from bleeding.

From Caswell county: "I have some bone and potash, 10 per cent phosphoric acid and 2 per cent of potash. I also have some fine tobacco stems. Can I mix the bone and potash with the tobacco stems and make a good fertilizer for ammonia, and if so, in what shape?" Tobacco stems have over 2 per cent of nitrogen, and some of it is in the readily available form of a nitrate of potash. The stems have also over 8 per cent of potash, and a very small percentage of phosphoric acid. As your so-called bone and potash, which is probably only acid phosphate with a little potash added, has but 10 per cent of phosphoric acid, the fault of any mixture with the stems will be a lack of phosphoric acid. Potash is not the special need of your Caswell soil, but phosphoric acid is and especially for the wheat. If I used the tobacco stems I would spread them broadcast as far as they will go, and then would give the wheat a better supply of phosphoric acid by mixing the article you have with some 13 to 14 per cent acid phosphate, and would use 300 pounds per acre. Or if you have enough of the bone and potash, put 300 or more pounds of that per acre. Better put them on in this way than to attempt to make a mixture of the phosphate and the stems.

From Granville county: "I have a piece of what we call chocolate land, now in peas, which had 400 pounds of 10 per cent phosphoric acid and 2 per cent of ash per acre. Peas do not do a heavy crop owing to the drought. After the peas are off I want to get the land in grass. The soil is loose and puffy and will not turn over with an ordinary cast plow, and is seldom too dry or too wet to plow. Have tried crimson clover and vetch and failed to get a stand. Land makes good winter oats when sown early. Have thought of sowing oats and vetch with *Brônus Inermis*. Would the oats and vetch smother out the grass or help it as an arch grass is helped by clover? Would it pay to let the oats ripen and thresh them allowing the vetch to go through the thrasher and feed the straw? Last season vetch was hardly in full bloom when the oats were ripe." We have no doubt that the oat straw and vetch would make a good feed. It will depend on what you want the grass for as to which will be best to sow. If for hay, then I would not use the *Brônus*, but if for permanent pasture it will be very good. Orchard grass, red clover and tall meadow oats grass are about the best hay grasses for your section. On low bottom land I would use Meadow Fescue and Red Top with a little Timothy. But the fact is that on our uplands, if we except the steep hillsides that never should have been cultivated, we do not need grass. Our Southern upland soils need building up, and this can be better accomplished by a short three year rotation and peas than by trying to get something out of hay grasses. It is very hard to convince the Southern farmer that he has the best hay plant in the world in the field pea. But such is the fact, and when our farmers realize the value of the pea they will be less anxious to try things they read about as successful in the North. *Brônus Inermis* is a grass newly introduced into this country. We have never grown it but have seen it growing in the North in the best conditions possible. The crop of grass was not heavy, and the general opinion is that it has a greater value as a pasture grass than as a meadow grass. An experiment made at this station with this grass a year or so ago was a total failure.

THERE ARE PEACHES AND PEACHES.

(Elkin Times.)

Mr. Francis Holcomb, a gentleman who lives out on the Brushy mountains, sold a load of peaches in Elkin last Monday for 80 cents per bushel. Mr. Holcomb tells us that he has not sold peaches this year for less than 75 cents and, that, too, when other people were trying hard to get 35 cents for theirs. In the fruit, the man in the salesman for 75 cents is better worth the money than those that bring 35 cents.

And this reminds us of the fact that this could be made a great fruit country. It is better adapted to fruit growing than to general farming. Let any farmer take a pencil and count the number of trees that he can put on two acres of ground, he will find that 500 trees will not overcover the land. For the first eight years the land will produce about as much as if the trees were not on it. Now if he has planted all winter fruit and if he has planted all winter fruit and bought his trees from a reliable nursery man, he should be able to gather each fall, the trees being eight years old, as much as one which would bushel from each tree and the trees that give him, counting out the trees that do not bear or maybe did not grow off well, as much as 600 bushels of off well, as much as 600 bushels of winter apples. We could carry the calculation farther but will leave that for you to do.

INSECT PROPHETS.

(London News.)

A great deal of our most popular weather lore is wholly superstitious, ascribing prophetic virtues to the weather of particular days of the week, saints' days, and even the movable feast days. Although it is interesting enough in its way, that kind of weather lore can hardly be taken as a reliable guide. It is from the habits and instincts of animals, properly observed, that we can learn more weather wisdom of the scientific sort than from almost any other source, and, of all animals, insects are among the most interesting to study in this connection.

Bees are excellent weather prophets. There is a common country saying that "a bee was never caught in a shower." When rain is impending bees do not go far afield, but ply their labor in the immediate neighborhood of their hives. This well-authenticated fact is set forth in the rhyme which tells us that—
When bees to distance wing their flight,
Days are warm and skies are bright;
But when their flight ends near their home,
Stormy weather is sure to come.

Virgil was evidently aware of this bees' instinct for coming rain, and describes (in *Georgics* IV.) the insects as "searching the skies for all-out breeding storms." Just before the rain humming bees may be observed entering the hive in large numbers, while none comes out again. When that is observed the observer may confidently follow the good example and seek shelter. And, again, when bees are seen vigorously at work very early in the morning, unsettled weather may be expected later in the day, the weather instincts of the little creatures apparently leading them to make up time in advance.

Wasps and hornets are said to have the weather instinct over a still longer range. The banks of streams are favorite nesting places for these insects. If the nests in any season are generally placed high up in the banks, it is always taken by country people as a sign of a wet season, the position of the nests being taken in order to avoid floods. When the nests are near down to the level of the water they foretell a dry and warm season.

Ants, too, are credited with an instinct for the weather of a whole season. When they are observed at midsummer enlarging and building up their dwellings, it is said to be a sign of an early and cold winter. The daily habits of the ant, however, yield a number of more reliable observations at closer than a season's range. For instance when ants that have been located in low ground are observed migrating to higher, it is a sign of heavy rains. The entrances to their underground dwellings are always worth noticing for an open ant hole means clear weather and a closed one means that a storm is approaching. It is also said that the direction from which the prevailing rains of the season will come may be told from the position of the entrances to ants' nests, the opening being made with the aspect that will be driest. This is also said of wasps' nests; and, since the southwest is our wettest quarter it follows that when many nests are found with a southwest aspect the season is likely to be a dry one.

There is a wealth of weather wisdom to be got from observation of spiders. These insects cannot spin properly in a high wind. Before they begin to spin they may be observed strengthening their webs. The shape of the web is also a valuable indication. When the frame lines are short and stout the insect's instinct has told it that wind and rain are coming, while long and slender frame lines are a very reliable sign of calm and fine weather. The duration of a storm can often be foretold by observations of spiders. If they remain active during rain you may be certain it is only a shower and will very soon be over. When, at the beginning of rain, they retire into complete indolence, the unsettled weather will almost certainly last for some time. The time of day at which spiders mend their webs is also a good weather sign.

If the mending is observed going on during a summer evening there will be no rain that night. A curious observation, but well authenticated, is that when spiders are seen in large numbers crawling on walls instead of attending to their nets, wet weather is impending. The same expectation follows when they are seen falling without apparent reason, from their webs. In time of drought spiders are often the first creatures to give us a hint of a change coming, for in a long, dry period, if closely woven and funnel-shaped webs begin to be seen in sheltered position about the hedges the drought it about to break up.

Most people have observed gnats with a view to forecasting the weather and are aware that, as the old "Husbandman's Practice" puts it, "if gnats be seen to hover together about the beams of the sun before it sets and fly together, making, as it were, the form of a pillar, it is a sure token of fair weather." If the column of gnats sports up and down, ascending and descending in the evening sunshine, it foretells heat. The higher the swarms are observed the more settled is the weather likely to be. When, however, the swarms are seen sporting in the shade and under trees you may expect rain, and if they sting viciously you may be quite sure of it. The excessive chirping of crickets is

another insect sign of rain. Glow worms, too, are rain-bringers. The more numerous and brilliantly they shine the more likely is wet weather; and it is said that rain is a certainty within twenty-four hours if they are seen shining after midnight. Instead of shutting off their light, as usual, an hour or two before twelve.

One of the most curious beliefs about an insect as a weather prophet is concerned with the larva of the cicada, commonly known as the cuckoo spit. This insect is enveloped in a white froth. If it lies in the froth with its head upward, the summer will be dry, if downward, wet. This is said to be an infallible sign. We are content to mention the infallibility without in any way guaranteeing it.

SETTING OUT FRUIT TREES AND GRAPE VINES.

Regard quality rather than quantity. This applies in an eminent degree to fruit trees and grape vines. A few of either properly set out and well cultivated will prove far more profitable than a much larger number cultivated in the usual way.

Transplanting will first claim our attention. Tranches should be constructed at proper distances apart, according to the kind of tree to be grown; they may be 2½ feet deep, 3 feet broad on the bottom and 4 feet at top; they may be constructed with a plow and shovel.

The trenches, except spaces of about 5 feet at proper distances apart, should be filled to within about 6 inches of the top with green round timber, bark on, red oak, white oak or hickory will be good; any old wood considered better than pine. The trenches should then be filled with soil, which will cover the logs to the depth of about 6 inches, said spaces will indicate the distances apart the trees will stand in the trenches. They are to be properly filled with soil, to which well rotted chip manure or other suitable material may be added. Thus arranged, the trees can become sufficiently well rooted to withstand storms, which would not be the case if they are placed immediately over the logs. In setting, the trees should not be planted any deeper than they originally grew.

While the timber in the trenches is rotting the oxygen of the air, or of rain water, combines with the carbon of the wood and forms carbonic acid gas. This gas is a powerful solvent and acts on certain rebellious elements of the soil reducing them to plant food.

Now any plant that will hasten the decomposition of the wood will prove beneficial. With this view iron tubes of suitable size and length may be employed. They may be about six inches above the ground when planted. The arrangement at the bottom should be such as to prevent the dirt from running among the logs. Puddles of clay thrown around the bottom of the tube will be good. A tube for each compartment will be required. If preferable, said tubes may be constructed of some durable species of wood. The plan will answer well for fruit trees or grape vines. Some years ago it was tested on a grape vine near Wilmington, N. C., substantially as follows:

A Flowers grape vine, a variety of the suppurating family, was set out in the usual way; about six years thereafter a pit 8 feet long, 4 feet wide and 2½ feet deep was constructed. The pit was then filled with green red oak poles, bark on, to within about 6 inches of the top, and then properly covered with soil. A cutting from said vine was then planted near one end of the pit. In a few years the younger vine went ahead of the parent vine. One year, of which I have a record, after the younger vine got to bearing properly the two vines produced 27 bushels of grapes, which were sold for wine purposes. Of these the younger vine produced about two-thirds; nor was this all, the grapes from the younger vine were larger and of much better quality. My opportunities for investigation then ceased, but it is believed that the younger vine eventually much exceeded the above proportion. The same principle applies to all fruit trees.

To procure best results commercial fertilizers may be used. For apples, use a fertilizer as follows: Nitrogen 2 per cent; Available Phosphoric Acid 5 per cent; and Potash 10 per cent. Broadcast from 400 to 800 pounds per acre and work into the soil. Instead of the above, the following material may be compounded and used: Nitrate of Soda, 50 to 100 pounds; Acid Phosphate, 250 to 500 pounds and Kainit, 400 to 800 pounds. In lieu of the Kainit, 100 to 200 pounds Muriate of Potash may be used. The application may be made annually.

Heavy applications of nitrogen should be avoided, as it promotes a growth of wood at the expense of fruit. The above formula can be varied to suit other fruit trees, such as peaches, grape vines, etc., but the treatment and application of wood will substantially be alike for all.

MAKING IT HOT FOR THE ELDERS.

A Citizen of Salisbury Protests Against the Mormon Missionaries.

It seems that the Mormon elders now doing "missionary work" in Salisbury are not meeting with quite as cordial a reception as they could wish.

A correspondent of the Salisbury Sun calls attention to "the pernicious efforts of Brigham Young's satellites," declares that "the very presence of these tramps is an insult to the intelligence of our citizens," and adds:

"The dirtiness and depravity of this 'organized nastiness' should not be allowed to leave slime and pollution on the threshold of our homes, nor should our doors be open for one moment to give entrance or encouragement to a set of tramping vagabonds who have the impudence and audacity to debauch the home in which they receive hospitality."

TURNIPS.

By BRYAN TYSON.

To grow turnips profitably the preparation of the soil should be commenced a year or more in advance. Green crops, say clover or cow peas, properly fertilized when seeded and turned under at maturity, will answer an excellent purpose. A fertilizer composed of the following ingredients may be used per acre: Acid phosphate 300 pounds, kainit 100 pounds broadcast and plow in shallow, preferably a few weeks before seeding, 100 pounds of muriate of potash may be used in lieu of the kainit.

The ranker the green crop the greater the benefits to be derived, consequently it will pay well to apply double the above quantity of fertilizer. Crimson clover fertilized as above and turned under at maturity forms a turnip crop next season would answer an excellent purpose. The clover (and the same of peas) should be turned under sufficiently early to at least partially decompose before the turnips are seeded.

When a fertilizer is applied to a green crop, as above, and turned under, no further fertilizer for the turnips will be required. The clover or peas as the case may be, will return to the soil the phosphoric acid and potash previously drawn from the acid phosphate and kainit that were applied direct.

The vegetable matter, while rotting will add humus and other valuable properties to the soil, thus largely increasing the general fertility and productiveness of same. In addition to this a heavy crop of clover or cow peas will draw from the atmosphere from 100 to 200 pounds of nitrogen per acre. The quantity will of course vary with conditions, but in order to be safe we will take the smaller quantity, 100 pounds.

The nitrogen in commercial fertilizers usually costs the consumer from 20 to 28 cents a pound. Counting it at 20 cents there will be a clear gain of at least \$20 per acre, to say nothing of the other important advantages, from growing and turning either one of said legume crops.

When the crop of clover or peas, as the case may be, is turned under, the nitrogen, gathered as aforesaid, will also be returned to the soil where it will be available for the turnips, or any other crop that may follow.

Our farmers all know what saltpetre is. They can readily ascertain its active properties as a fertilizer by applying the scrapings from beneath old houses to the soil and noting the result. These scrapings are strongly impregnated with saltpetre. Touch a turnip to the tongue and note the pungent taste.

Practically saltpetre, nitrogen and nitrate of soda may be regarded by the farmer as meaning the same thing, but there are different degrees of strength in the several substances. One hundred pounds of nitrate of soda is equivalent to about 16½ pounds of nitrogen. Consequently, if you can virtually grow 100 pounds of nitrogen per acre, as above described, it is equivalent to about 600 pounds of nitrate of soda. This fertilizer, nitrate of soda, is regarded as the most convenient form of supplying nitrogen direct to the soil. It is mined in Chili, South America, being dug out of the ground and is known as Chili Saltpetre. Owing to the great distance, and to other causes not necessary to state, nitrogen produced from nitrate of soda, costs nearly three times as much per pound as phosphoric acid or potash. These three ingredients (nitrogen, phosphoric acid and potash) constitute a perfect fertilizer.

The above plan of employing a legume crop will produce a heavy crop of turnips and the fertility of the soil will at the same time rapidly improve thereunder, but as a portion of at least two seasons will be necessary to prepare the soil the plan is impractical for present purposes, therefore, in lieu of the foregoing construct low ridges from 2½ to 3 feet apart, and deposit a liberal amount of stable manure thereon.

A fertilizer composed of the following ingredients may also be applied in the drills with the stable manure at the rate of 500 pounds per acre: Nitrogen, 3 per cent.; phosphoric acid, 6 per cent.; potash, 8 per cent. Run a plow in the drills and mix the manure and fertilizer thoroughly with the soil. Then complete the ridges and seed the turnips.

The plants in the drills should be properly thinned and thoroughly cultivated with a light narrow plow of suitable construction. Two boys can easily do the work, one holding, the other one pulling the plow. By having the drills a little wider apart a horse can be used in cultivation.

Owing to the convenience of cultivation, sowing in drills will be found far more practical than broadcast sowing.

BRYAN TYSON,
Carthage, N. C.

AN IMMENSE POULTRY FARM.

(Southern Pines Free Press.)
Capt. A. M. Clarke has in course of construction what will be one of the largest concerns of the kind in the country. The Sunny South Poultry Farm embraces fifteen acres of land,

a brick incubator house containing five Cyphers incubators with hatching capacity of 1,240, a brooder house heated by steam and eight large runs with houses attached. This is only one-third the number of houses contemplated. Pekin ducks will be a feature of the enterprise, there being a stream of water on the premises across which a dam will be thrown to form a pond for their accommodation. Pure breeds will predominate flocks of White Wyandottes, from the famous poultry yards of Stevenson & Co., New York, Barred Rocks from Lewis, West Virginia, Pekin ducks from Curtis Bros., New York, and Red Cochins from the State Experiment Farm having already arrived, while others are en route. The product of this "chickery" is primarily intended to supply our hotel and citizens with fresh eggs and choice broilers, thus adding to the popularity of Southern Pines as a health resort. The captain deserves success and we believe he will achieve it.

THE APPLE SHOW

The Exhibit at the Museum Contains 22 Varieties.

Secretary Bruner Contemplates Securing Exhibits of Other Products of the State Later.

The agricultural department is every day demonstrating that it is of practical benefit to the farming interests of the State. Since its establishment it has in many ways aided in bettering the condition of the agricultural interests of the State.

It is in view a number of projects for the near future for assisting the farmers of the State in giving prominence to the excellence and variety of their products. At present, the apple show is attracting great attention. Next winter Secretary Bruner intends giving another show, and in the spring he will make an exhibit of the berries of the State.

There is displayed in the State Museum about twenty-two varieties of apples from two or three farms in Vance county, as follows:

- Fallowater, Finetta, Queen Pippin, Stine, White Pippin, Dessert, Newton Pippin, Lawver, Bell Flower, Virginia Beauty, World's Wonder, Hoover, York Imperial, Brigman, Shannon, Pippin, Sheep Nose and Gloria Mundi.

The grove-men and consumers of apples in Raleigh are invited to call during Friday, Saturday and Monday and see this display, if interested.

The design of making this incidental exhibit in the State Museum, just now, is not only to encourage the apple growers of our mountain region, but to try to induce conditions favorable to shipping this fruit into this and other parts of the Atlantic Seaboard. The chief obstacle now in the way of delivering this fruit in the southeastern part of the United States, is the one of roads over which to transport the apples to the railroads. Those mountain people are crying to the Legislature and to the business elements of the country to aid them in the construction of proper roads over which they can transport the wonderful wealth locked up in their region.

STATE FAIR PROSPECTS.

Much More Space Than Usual is Being Assigned to Exhibitors.

Preparations for the State Fair are progressing most satisfactorily. One of our best stock raisers in the country had stalls assigned yesterday for twenty cows; also five stalls for pens of sheep, two for mules, and several for hogs.

The Snyder Machine Company is putting in facilities for a display from their great works in Richmond, Va. This will be the first time in years that machinery has been shown in running order.

The west is preparing to send the beautiful apples of unequal size and variety for which it is famous. They will be here from Vance, Haywood, Macon and other counties. The horticultural display will be moved this year to the great agricultural hall, where it can be seen to better advantage. Mr. Bruner, Secretary of State Agricultural Department has kindly given his valuable aid to this division of the Fair, which has for its director, O. W. Backnal, Esq., of KITTRELL.

Fayetteville will be represented by a display from the famous nurseries of James M. Lamb, more especially in the line of shrubbery and evergreens.

Anthony will be here with nursery stock and fine peas and other points.

The fact that the Biltmore exhibit, while present for the enjoyment of visitors, will not compete for the handsome premiums for agricultural products, has stimulated a keen competition by farmers generally, and entries are coming in for the field products.

A girl may not see anything about her best fellow to laugh at, but his mustache is apt to tickle her.