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

RALEIGH, N. C., MARCH 21, 1899.

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The Editor: are not responsible for the views of Correspondents.

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



"I am standing now just behind the urtain, and in full glow of the coming Behind me are the shadows on the track, before me lies the dark valley and the river. When I mingle with its tark waters I want to cast one lingering look upon a country whose government 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 Hoa. Guy E. Mitchell

The industry of paper manufacturing is doing its share to deplete Ameri can forests. The recent discussion be fore the Canadian Join; High Commis sion called attention to the importance of wood as a paper stock. A late re port of the D vision of Forestry of the Agricultural Department shows that a great variety of woods is used for this purpose. Spruce, poplar, pine, hem lock, basswood, balsam, cypress, birch, maple, beech, horse chestnut and gum are all used in paper manufacturing.

That it is much easier to cut trees down than it is to grow them is shown by experiments made by the Forestry Division. Three hundred spruce trees of marketable size were measured and observed during a period of growth and it was ascertained that the mean annual growth is only about eleven hundredths of an inch; or on an average that about nine years are required to add one inch to the diameter of a spruce tree after it has attained marketable size. We are glad to note that the legislature authorized the State Agricultural Department to adopt messures for the protection of

The torests are considered one of the | most valuable national possessions in the old countries. In Bavaria the for est ar a is about one third of the total area of the kingdom. One third of this area is owned by the government which has spent since 1830, about eight million dollars in acquiring forest land. A regular system of forest culture is imployed. The yield per acre is gen erally large, valued at about \$1 92 and the net in come of the S ate amounting to about \$4 000 000 for a year.

Information received at the Fruit Di vision of the Agricultural Department shows, in common with other general reports that the entire fruit industry of the country received a severe blow with the recent blizzard Ex Governor Hale, of Connecticut, who is the fore most peach grower in the country, passed through Washington the other day on his way South. Mr. Hale, in addition to owning peach orchards in Connecticut, operates immense acre ages in Georgia, and he was travelling South to personally investigate conditions there. Reports received from his S u hern superintendent indicated that while the peach buds were all What alarmed Mr. Hale most, how ever, was the report that the bardy the house, which had never previously at least cost, and how to retain it. been affected by the freezes, were dead. Advices from all over the coun

Chili, the thermometer reaching from 22 to 28 degrees below zero. In the Missouri peach belt the buds are con ceded killed, but it is not thought the trees are seriously injured. Some reports indicate, however, that the trees were killed. Reports received 1.om the lake region of Northern Michigan indicate all trees with the exception of Hill's Chili, killed to the ground. The thermometer stood below zero for a great number of consecutive days and the ground was frezen four feet deep. Reports from Southern Indiana indi cate trees badly damaged, the tempera ture reaching 15 below. In Eastern Tenressee trees were probably unin jured, but not a living bud is to be found. The peach region in Kentucky along the Onio River reports the entire destruction of the crop. In a few sec tions, owing, apparently, to local conditions, peach buds were uninjured Mr. Hale reports receiving buds from Northeastern Pennsylvania, two thirds of which were sound. He has some trees of Hill's Chili in his Connecticut orchards and from these he expects a fair crop. Hill's Chili is said to be the hardiest peach grown and is planted ing notice. Little do we know of the to a considerable extent in New Eng land, New York, Ohio and Michigan After the great freeze of 1874-75 when everything in Michigan was frozen to the ground, growers planted immense areas of this peach, and though reports have not been received to the letter of Mr. Tyson, which I at the Department as to condition in think is borne cut by the observation this State, it may be presumed that of practical farmers, it is a plant that the crop largely withstood the freeze

Since the great freeze in question there has been a constant tendency to produce a hardy peach of good quality and great improvement has resulted in this respect Hill's Chili is not con sidered a good eating peach, and the problem for fruit experimenters is to evolve, by hybridization or otherwise a peach which will combine hardiness with good eating qualities. This could probably be done by crossing Hill's Chili or Wager, both hardy but some what inferior peaches, upon some im proved or more tender variety and allowing the trees to grow up to fruit Assistant Pomologist of the Depart ment, states that he has received only tected by snow drifts. An interesting have cost me 14 cents per pound and development has resulted through at This peach comes quite true to seed be also many pounds of potash that and while but little has been done in | were pumped up by their deep roots, efforts to hybridize it, large seedling and put where the shallow roots of the parent peach is a yellow free stone | do not know the value of our cow pea, variety, many of the seedlings have considerable improvements have re

sulted. agara where the thermometer only he continues to buy them and says reached about ten below zero reports that with cow peas, acid phosphate are more favorable There are, how and potash, he has solved the problem pears and the buds were not largely planted in cow peas, a strip through injured Michigan seems to have come his clover field, that the summer was in for as hard usage as any section. In exceedingly dry, and the clover was so addition to peaches being frezen, one Ben Davis, Baldwin, Early Harvest kept green and luxuriant throughout and sweet apple trees, some of them | the season. I mention this fact to twenty years old are dead to the show how some people appreciate the ground. An interesting fact is noticed | cow pea in sections where they can't | in a x amining some of the trees in the raise their own seed, owing to the short Department grounds While the pith season for ripening I had another of Duchess, Bartlett and other pears man from Northern Ohio write me are blackened by the freeze, Keiffer that he raised cow peas 18 inches tall

shows absolutely no injury. Mr. J. Van Lindley, of this State, also tells the Greensboro Record that duce corn, and he felt convinced that He thinks the recent cold snap killed them all in the bud, as a day or two of warm weather about February 1st had caused the buds to swell.

AGRICULTURE.

THE FERTILIZER QUESTION.

Correspondence of The Progressive Farmer.

The last few issues of The Progress killed, it was thought that the trees | ive Farmer have contained much that themselves were not badly injured. is of practical value to the farmers of to be sent The Progressive Farmer so make soft onions with many scallions. our State. There is no question in which we should be more interested and semi hardy ornamental trees about | than that of fertility-how to secure it

The letter of Mr. Kivett, in a recent issue of your paper, was very interesttry indicate that the peach crop is ing and should be laid away and re Practically killed. Mr. Hale reports | read until the farmers realize the great all peach trees in Connecticut prob saving by adopting the plan suggested Fowls and eggs should also advance in phosphates. ably killed, with the exception of Hill's | -that of buying chemicals instead of | price.

manipulated guanos. If necessary, I could corroborate his statement as to the saving to be gained thereby, often as much as \$5 per ton. If our people would buy for cash, which is not an impossibility, and club together so as to increase the tonnage to car loads in one order, we then could get the various ingredients at the lowest possible price and make still another saving, and in this way reduce the price of our fertilizers to the minimum. I think I have seen a statement that there are about a quarter of a million tons of fertilizers sold in North Caro lina annually.

I have no means of knowing how much of this is manufactured guano, but it is safe to say that if the farmers would come together as one man, and buy for cash, that they could save thousands of dollars, that are needed to put into the necessities of life and make homes brighter and happier.

The letter of Mr. Tyson, calling our attention to the gathering and storing of nitrogen by plants, instead of buy ing it at the high prices that we have to pay for it, needs more than a pass possibilities of our cow pea, for it is the clover of the sandy sections. I do not know the analysis of the cow pea vine. I wish Profs. Massey, Emery or anyone who has it, would give it to us. Also that of red clover, But according should be found on more farms than

Taere is no section of North Caro lina that I have ever seen that it does not thrive. When I came to the red hills of Orange I was told that I could not grow many things that I raised on on my farm in the Eastern part of the State; among them, cow peas were named. However, I preferred giving them a trial, and the result is that I gathered 40 bushels of clean peas off of less than 20 acres of corn, for I planted them among the corn. Not a big yield, to be sure, but just 40 bushels more than some others have made on the per ton? ing in nursery rows Mr. Taylor, the same number of acres, and the only cost was the seed and gathering them In addition to the 40 bushels of peas two specimens of uninjured peach there are many pounds of ammonia buds, and these may have been pro stored up in their roots that would freight if I had bought it in the shape tempts to improve the Hill's Chili, of commercial fertilizers. There may orchards have been planted. While corn, wheat and oats can get it. We because we have not intelligently ex borne white free stone peaches. The perimented with it, and tried to find seedlings from these, however, -the out its worth to us. There is a man in grandchildren of the Hill's Chile-have | Western Pennsylvania who annually reverted again to the yellow flesh and buys from me from 10 to 30 bushels of cow peas. His first purchase, some five or six years ago, was an experi-In Western New York, around Ni | ment, but he was so well pleased that ever, few peaches in this region, but of "how to restore fertility to the soil." large orchards of cherries, plums and H3 wrote me that he plowed and parched that the field would have targe apple grower states that all his burned over, but the strip of cow peas on clay land that the top soil had been washed off and was too poor to pro we shall have no peaches this year. they would be of decided benefit in his section as an enricher of the soil. will pay us to experiment with cow peas, acid phosphate and potash to see how cheaply we can add fertility to the soil. I am satisfied that judicious experimenting will reveal a great deal to us that will be of value. I have some suggestions to make to our Alli onces along this line, but will defer them for another issue. In the mean time let the brethren be thinking and

> other's experience. Fraternally, T. B. PARKER, S. B. A.

Chicken feed is going up. The war or the fellows who corner the grain market have brought prices way up.

VALUATION OF FERTILIZERS.

The commercial value of a fertilizer is regulated by the prices demanded in commerce for the different forms of the three ingredients, nitrogen (am monia), phosphoric acid and potash, says the Southern Cultivator. The Louisiana Experiment Station says that these prices fluctuate according to the demand and supply. In some parts of the North nitrogen is assigned a separate valuation for each of its forms -that in nitrates and ammonia salts receiving the highest figure, and in leather and peat the lowest.

In Connecticut or Massachusetts, determination of the forms in which this ingredient occurs must be made before its commercial value can be calculated. All the forms of nitrogen have heretofore been considered of equal money value in the South, and but one price assigned. This, of course, precludes the existence of nitrogen in form of leather dust, or powdered horn, forms rega dedars unavailable and of little money or agricultural value.

The soluble and reverted forms of phosphoric acid have together been styled as "available," and assigned one value. The insoluble phosphoric acid has received no valuation. All forms of potash soluble in water have been regarded as equal value.

The following tariff of prices have been adopted for the past and coming

Nitrogen, 12 cents per pound, which makes ammonia 9 9 cents per pound. Soluble phosphoric acid, 5 cents per

Reverted phosphoric acid, 5 cents per pound.

Potash, 5 cents per pound.

The above prices may be used to lustrate the method by which the ommercial value of a fertilizer may be approximately estimated, e. g.: 'A fertilizer containing by analysis the following:

Nitrogen, 3 per cent.; soluble phosphoric acid, 6 per cent.; reverted. 4 per cent.; potash, 2 per cent. What is its approximate commercial value

A ton will contain: 60 pounds nitrogen, 12 cents...\$ 7 20

120 pounds soluble phosphoric acit, 5 cents 6 00 80 pounds reverted phosphoric

acid, 5 cents 4 00 40 pounds potash, 5 cents..... 2 00

Value per ton.....\$19 20 In this way the approximate com demand. But the tariff given is be ensuing season.

MONEY IN ONIONS.

on any soil which will produce a good erop of corn, unless it be a stiff clay, very light sand or gravel, or certain further care until ready to gather. varieties of muck or swamp lands, in well, while other muck soils give imdifference is generally, though not al must be sweet and well drained in orswampy land will not do, and even in onions will be fit to store for the winthe best of muck the first crop is apt | ter, unless desired for immediate sales. to be soft and necky. I always prefer has been cultivated with hoed crops, featility is applied at once, it is likely to make the onions soft.

There is no crop where a liberal use of manure is more essential than in this. Even on the deep, black muck it has windows for ventilation. The lands of the Great West, manure is cellar of a d relling house is usually essential to a good crop, and not only is the quantity, but the quality of the manure used of the greatest importgathering facts to put in some article ance. If it is too rank, it is sure to the air to circulate. Upon approach that we all may be benefited by each It should be well fermented and showeled over, at least twice during the previous summer to kill weed seeds Of course when it is not possible to secure manure, one must resort to commercial fertilizers-I preter the ground bone to any other-but large crops are raised by the use of super

Preparation of the soil is one of the spread it on rather thickly.

main points; remove all refuse of pre vious crops in time to complete the work before the ground freezes up, and spread the composted manure evenly, at the rate of twenty wagon loads per acre. This should first be cultivated in, and then the ground plowed a mod erate depth, taking a narrow furrow in order to thoroughly mix the manure with the soil. Carefully avoid tramp ing on the ground during the winter. Cultivate or thoroughly drag the soil with a heavy harrow as early in the spring as it can be worked, and then in the opposite direction with a light one. after which the entire surface should be raked with steel hand rakes. It is impossible to cultivate the crop eco nomically unless the rows are perfectly straight. To secure this, stretch a line along one side, fourteen feet from the edge, and make a distinct mark along it, then having made a wooden marker, something like a giant rake with five teeth about a foot long and standing fourteen inches apart, make four more marks by carefully drawing it with the outside tooth in, and the head at right angles to the perfectly straight mark made by the line. Continue to work around this line until on the third passage of the marker you reach the side of the field where you began; measure fifteen feet two inches from the last row, stretch the line again, and mark around in the same way. This is better than to stretch a line along one side, as it is impossible to prevent the rows gradually becoming | Epitomist. crooked, and by this plan we straighten

Sowing the seed should be done as soon as the ground can be gotten ready, and can be done best by a hand seed drill (after trials of many seed drills, I find the Iron King the preferrable). This should be adjusted carefully (test ing it by running it over a board or cloth) to sow the desired quantity of seed, and about one half inch deep, The quantity needed will vary with the soil, seed used and the kind of onions desired. Thin seedling gives much larger onions than thick. Four to five pounds per acre is the usual quantity needed to grow large onions.

them after every third passage of the

Give the onions the first hoeing just skimming the ground between the rows as soon as they can be seen the length of the row. (We find the McGee cultivator the best by all odis) The hoss of this cultivator allow the earth to pass over tha blades without moving it out of place. Hoe mercial value of any fertilizer can be again in a few days, this time close up estimated. These prices are by no to the plan's after which weeding must means fixed. They fluctuate almost be continued. This operation requires daily in the markets of the world in to be very carefully and thoroughly accordance with the law of supply and | done. The weeder must work on his knees astride of the rows, stirring the lieved to be nearly representative of earth around the plants in order to dethe average of prices during the past stroy any weeds that have just started. year, and hence are adopted for the In ten days or two weeks they will require another hoeing or similar weeding to the last, and two weeks later give them still another hoeing, and if A fine crop of onions can be grown | necessary, another weeding. If the work has been thoroughly done at the proper time, the crop will not require

As soon as the tops die and fall, the which they invariably grow necky bulbs should be gathered in windrows. and cannot be made to ripen down If the weather is flue they will need no attention while curing, but, if it is not, mense crops of the finest quality. The | they will need to be stirred by simply moving them slightly along the row. ways, due to drainage. Muck lands | Cut off the tops when perfectly dry about half an inch from the bulb, then der to raise good onions. Ordinary after a few days of bright weather the

One of the most popular methods of a rich, sandy loam, with a light mix- keeping onions is to spread straw to ture of clay. This is much better if it | the depth of eighteen inches upon the barn floor, scaffold or garret; upon kept clean of weeds and well manured | this spread the onions six to ten inches for several years previous, because if a | deep and cover with two feet of straw. sufficient quantity of manure to raise If in good condition, and sufficient an ordinary soil to a proper degree of depth of covering is used, they will keep in fine condition till May.

A cool, dry cellar of some out-building, burn or carriage house, will be found excellent for keeping onions, if too warm. They should be spread on scaffolds about six inches deep, with room enough between the boards for of cold weather, close the doors and windows, and keep the temperature just above the freezing point. With proper care they can be kept from freezing, and will come out nice and sound in the spring .- H. W. Buckbee, Rockford, Ill., in Farmers' Voice.

The secret in applying whitewash so ment himself. as to get the most benefit from it is to put it on as hot as you can use it and

FERTILIZERS REQUIRED BY DIFFERENT SOILS.

Regarding classes of soils in a general way, it may be said that potash is a very essential constituent of manures for sandy soils, not only because all crops require potash, but because they require it in relatively large amounts, and because in sandy soils it is liable to exist in minimum amounts. On the other hand, in clay soils, potash is liable to exist in considerable amounts. and the deficient element is more likely to be phosphoric acid, and this applied in abundance may enable the plant to secure the necessary potash. In limestone soils, the lime and phosphoric acid, and perhaps the potash, may be in sufficient abundance to cause a normal growth of plant, yet the nitrogen be so insufficient as to prevent a full development. These points should guide in preparing and adapting our fertilizers to our conditions, particularly in the absence of specific experiments touching these points,-Prof. Voorhees, in Americal Agriculturist.

Lime furnishes to the land comparatively little plant food directly, but acts rather as a liberator, unlocking the latent fertility of the soil; hence for best results there must be something in the soil for it to work on; hence it is, also, that too much dependence in lime finally impoverishes the ground. It has a tendency to make heavy clays more light and friable.-

Poultry and Bees.

BRES AGAIN.

Correspondence of The Progressive Farmer.

Your letter answering a correspondent who desired to know when and how to transfer bees from box gums to the movable frame hives, got mixed up somewhat. It reads as though the artificial combs were to be put in the box hive to be transferred. If artificial formation is to be used at all in such a case, it must be wired in the frames of the new hive. Again: it is not one time in a thousand, that the movable frame hive will closely when set on the upturned mouth of the box gum. So we use a box made as near the same size of the box gum as possible with a few cross sticks across the inside of this bex for the bees to cling to. We drum the bees up into this small box and set it near the mouth of the box gum when it is laid down ready to be cut open, taking care that the combs are standing edgewise, for if the box gum is laid so that the combs will be flat side down, the combs will sag and break. Having cut through the combs at the head of the box gum, we remove the top, and then cut the nails of the gum so as to get to the combs handily by removing the upper side. We have a board a little larger than the frames, on which we lay paper twine cut the proper lengths, one stran long enough to go all round the frame lengthwise and two to reach round the frames short way; lay these down on the plank or board and lay a frame on these strans; cut out of the gum a card of comb, lay it on the frame, taking care that the same edge is up, just as it was in the gum. The same side up in the gum must be the upper edge when fastened in the fame. Now cut it so as it will settle in the frame, draw the twine tightly and tie the ends. Box gums are often so tall and small that it may require two cards of its comb to fill a frame; but be careful to see that what was the upper side of the comb in the gum is the upper side in the frame, else the bees will cut it

Having transferred the combs in this way and hung the frames in the new hive, leaving a bee space between the combs of about three-eighths of an inch, set the new hive in its place, or on the ground near where it is to remain, then take the box of bees and hive them in the new hive as we would a swarm of bees. They will fasten the combs tnd cut the paper twine out without getting tangled and killed in the fiber as they would with cotton twine. Some use wire for fastening the combs in the frames, but after trying, the tins, the wires, the cotton twine, we prefer the paper twine. Bees will cut it out, and save the trouble of having to open the hive in order to remove the fastening by the apiarian. No rule can be laid down to cover the whole ground of manipulation; the bee keeper must exercise some judg-

Since my last article published in

[CONTINUED ON PAGE 8]