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6

AT RALEIGH, NORTH CAROLINA.

Harvesting and Threshing Cowpeas by Machinery-Insect Pests of shide Trees-Feeding Calves-Questions and Replies.

August 1895.

The Experiment Station Bulletins.

The standing offer is made to send the builetins of the station to all in the state who really desire to receive them. They are specially prepared to be serriseable as far as possible to the prachave already taken advantage of this offer. Unless you really want to be benefited please do not apply for them as we have none to throw away. If you desire to read them, write on postal card to Dr. H. B. Battle, Director Raleigh, N. C.

Harvesting and Threshing Cowpeas by Machinery.

The great need of southern planters is an efficient machine to gather and thresh cowpeas. This is now done by hand and at a cost too great for them to become very widely planted for both a renovating and money crops. Correspondents have called attention to this matter, among them being Judge Walter Clark of the North Carolina Supreme Court Bench, and Prof. W. F. Massey of the North Carolina Experiment Station. Four parties responded, and all were invited to send a machine to be tested by the North Carolina Experiment Station. Only one of these, Mr. J. H. Gardner of Dalton, Ga., accepted the proposition, and his machine was tested by Prof. F. E. Emery, Agriculturist of the North Carolina Experiment Station, first on the farm of Mr. T. B. Parker, Goldsboro, N. C., and again on the farm of the Agricultural College at Raleigh. The machine is a thresher and not a harvester, and only threshes the peas from the pods after they have been picked by hand from the vines. The machine is known as the "Success Pea Thresher." At the first trial of 15 minutes 31% lbs. corresponding to 2.1 bushels per hour, were threshed and fairly well eleaned. This required one man to feed the machine, while two turned the wheel. It was impossible for these two men to have continued with the same labor for more than half a day. At the second trial run for 44 minutes, the rate of 1.57 bushels per hour was secured. As compared with these results, three men were employed to whip out the peas by hand and to fan them clean also by hand. Occupied thus for 44 minutes, they secured the rate of 3.6 bushels per hour of eleaned peas. This is more than double the result from the Success Thresher in the second trial and nearly double from that in the first. The machine therefore cannot be recommended. What is needed is a serviceable Pea Barvester, that will gather the peas from the vines in the field, and not merely a pea thresher. There have come to light two such machines in the investigation of the North Carolina Experiment Station upon the subject. These however need improvement and with some ingenuity and capital might be successfully placed on the market. Both of these are North Carolina inventions. One of them (the "Eureka") proposes to gather the crop from broadcast sowing, while the other picks from rows. This last (the Savage Pea and Bean Harvester) was shown in a test (North Carolina Experiment Station Press Bulletin No. 58) to gather 76 per cent. of all the peas when driven once over a row: with a second time, 86.86 per cent. were gathered, which was about as efficient as hand work. A machine to gather peas from broadcast sowings however, is the one most needed, and if proven successful, and can be placed on the market cheaply, is bound to prove of great value both to the inventor and to farmers generally.

web around others.

REMEDIES: The same as for the Tent Caterpillar. This worm feeds by preference upon the sycamore, poplar and white maple. It is also a pest in neglected orchards.

3.-THE ELM-BEETLE-Galeruca Xanthomeloena.

This insect is of foreign origin, only recently introduced and still chiefly found upon the European Elm. The worms are about 1/ inch long vellowish with two black stripes on sides. The

worms feed in swarms upon the

of the Elm, eating the green master and leaving the ribs. They are most troublesome in July and August.

REMEDIES: Spray with Paris green. Gather up and destroy the pupa concealed under trash, boards, etc., under and near elm trees.

4.-THE TUSSOCK CATERPILLAR-OTYgia Cucostigma

This worm is easily known by the four tufts of white hairs on its back resembling the dauber of a shoe brush.

This worm feeds upon the leaves of most shade and fruit trees, usually devouring the whole substance beginning at edge of leaf. It does not spin a web, but has a habit of suddenly dropping from the tree by a cable which it spins as it falls. It is most common on the maple, elm and fruit trees.

REMEDY: Same as for No. 8.

The above described insects are only a few of the most destructive species known to exist in this state. Lovers of beautiful trees are requested to watch for the first appearance of these pests. and promptly notify the Experiment Station, sending at the same time specimens of the insects and the folisge they damage. Special remedies will be given such as each case requires. Builetin No. 100, our common insects can be had gratis by applying to Director H. B. Battle, Raleigh, N. C.

Some species of trees are more exempt than others from insect attack. In setting out new trees these species should be given the preference. Among such and well adapted to our climate may be named. Red Mulberry, Tuliptree, Sweet and Sour Gums. Sugar Maple and Red Maple. - Gerald Me-Carthy, Etomologist, Experiment Station.

continued five days. The u one pound of fresh milk to four pounds of separated milk was fed five days. The third period of five days the calves drak six pounds each of separated milk twice daily with one ounce of ground oats stirred into each mess. During the fourth period of five days

seven pounds of separated milk with one ounce each of ground oats and wheat were consumed at each of two feeds by each calf. For the fifth period of five days eight pounds of separated milk with one ounce each of ground oats and wheat as before, constituted the feed per morning or evening for each calf.

From the beginning of this feeding about a spoonful of lime water has been added to each feed. There was no scouring and both calves have grown well. This is shown in the gains of over one pound for one calf, and 1% pounds for the other calf per day .-F. E. Emery, Agriculturist N. C. Ex-

- ...at Stations-

Acid Phosphate of Different Grades.

If you will kindly answer the followin : questions you will greatly oblige a number of farmers in this section

Take two samples of acid phosphate :-- One analyzes 12 per cent, the other 13 per cent. --Commercially one is worth \$1.00 more than the other. Say that the dealer makes \$1.00 differnce in price; which is the cheaper acid to the larmer? Some claim that there is an axcess of acid

in mest mixtures ond that 13 per cent acid when bought to compound with other ingre-dients is no better than 10 per cent acid. Is this not erroneous ?

Take a sample of fertilizer analyzing a large percentage of moisture. Does this indicate only the mechanical conditions? Suppose after a time the fertilizers dry out is there any loss in weight ?-T. T. C., Laurinburg, N. C. (Answered by H. B. Battle, Director, North Carolina Experiment Station.)

On the supposition that the 1s per cent acid phosphate is sold for \$12.00 and the 13 per cent is sold for \$13.00. there is no difference in the value of the purchase, considering the amounts paid. The matter of greater weight of bulky materials in the 12 per cent article as compared with the 13 per cent article makes the latter somewhat better material to purchase, but if the above prices are paid for materials delivered at the depot and only wagon hauling is to be considered, this difference is but slight. Of course the 13 per cent article is better than any article of lower grade. The terms in percent-

age are confusing to most people, but

Questions and Repiles.

The Station will be glad to extend it: asefulness by answering as far as pussible questions on agricultural topics sent by any one in North Carolina who may desire to ask for information. Address all questions to the North Carolina Agricultural Experiment Station, Raleigh, N. C. Replies will be written as early as possible by the member of the Station staff most competent to do so, and when, of general interest, they will also appear in these columns. The Station desires in this way to enlarge its sphere of usefulness and render immediate assistance to practical farmers.

The Lesser Locust Injuring Crops.

I enclose some of the different sized grasshoppers I am troubled with. I think they have changed somewhat in color, getting darket as they get larger. They have become so numerous that they are devouring truck of all kinds. but seem especially fond of melon vines. They also attach corn .- MRS. S. M. B., Wildwood, N. C.

[Answered by Gerald McCarthy, Etomelo-gist, N. C. Experiment Station.]

The insects are the lesser Locust. Caloptenus atlantie. This is an indigenous species which ranges all through the Atlantic States from Maine to Mexico. It is not generally very troublesome. Where it attacks truck the Arsenite powder made according to formula No. 7, Bulletin 84 of this Station, will destroy it. Where it is abundant enough to damage field crops the only practicable remedy is the "hopper dozer" which must, however, he used by the combined farmers of a ne ghborhood. It will not pay a single farmer o attempt it. The insect- will not est long should too we that the nor-Tall: Bookt

HERE IS A TIP

And It Comes Straight From Mrs. Carlisle, They Say.

A special from Clarkesville, Tenn., dated Sept. 3, to the Louisville Times, savs: "In a letter to a Southern Kentucky friend, Mrs. Carlisle is reported to have said that the Administration will support Hardin for Governor, because Carlisle will be a presidential candidate and can not afford to have his State go Republican."

Two Lives Saved.

Mrs. Phoebe Thomas, of Junction City, Ill. was told by her doctors she had Consumption and that there was no hope for her, but two bottles Dr King's New Discovery completely cured her and she says it saved her life. Mr. Thomas Eggers, 139 Florida St. San Francisco, suffered from a dreadful cold, approaching Consumption, tried without result everything else then bought one bottle of Dr. King's New Discovery and in two weeks was cured. He is naturally thankful. It is such results, of which these are samples, that prove the wonderful efficacy of this medicine in Coughs and Colds. Free trial bottles at O. M. Royster's Drug Store and G. A. Norman's Drug Store. Large size 50c. and \$1.00.

A Sufferer Cured

"Every season, from the time I was two years old, I suffered dread. fully from erysipelas, which keep growing worse until my hands were almost useless. The bones softened so that they would bend, and several of my fingers are now crooked from

this cause. On my hand I carry large scars, which, but for AYER'S

Sarsaparilla, would be sores, provided I was alive and able to carry anything.

Eight bottles of Aver's Sarsaparilla cured me, so that I have had no return of the disease for more than twenty years, The first bottle seemed to reach the spot and a persistent use of it has perfected the cure."-O. C. DAVIS Wautoma, Wis.



Help the Library!

To help the Library, 1 propose as follows: Whenever a gentleman belonging to the Library Association. has his hair cut at my place and pays twenty-five cents, I will give him a ticket showing that I will pay the Association five cents, which he can hand to the Treasurer. At the end of the month the Treasurer can get the tickets cashed by me. This offer to be good for three months. H. C. DENNY, Barber 14-tf

LIDDELL COMPANY. Charlotte, N. C.

Insect Pests of Shade-trees.

During the last few years there has arisen an ever increasing strain of complaint against the insects which have begun to ravage the shade-trees in southern cities and towns. The alarming damage arises partly from the unchecked introduction and spread of foreign species of insects, but is chiefly owing to the mischievous English sparrow, which is fast ejecting our native insectivorous birds, while itself prefering a different diet.

Among the most destructive shadetree insects may be enumerated the following:

Advanced Monthly Summary of Meteorological Reports for North Carolina, J.dy 1895.

The North Carolina State Weather Service issues the following advanced summary of the weather for July 1895, as compared with the corresponding month of previous years:

Temperature .-- The mean temperature for the month was 75.2 degrees, which is 2.6 degrees below the normal. The highest monthly mean was 80.2 at Lumberton; the lowest monthly mean, 64.0 at Linville. The highest temperature was 99 degrees at Littleton, Tarboro, Rockingham, Saxon and Salem on various dates: lowest temperature, 43 on the 3d and 6th at Linville. The warmest July during the past 22 years was in 1887, with mean of 80.3 degrees: the coldest, in 1891, mean 74.2.

Precipitation .- Average for the month, 5.25 inches, which is 0.19 inch below the normal. The greatest amount was 9.03 inches at Southport; least amount, 2.32 at Asheville. The wettest July occurred in 1889, average rainfall 7.73 inches: the driest in 1883, average, 3.12. Wind .- Prevailing direction, southwest, which is the normal direction for July. Average hourly velocity, 7.0 miles. Highest velocity 45 miles an hour from the southwest on the 24th at Kitty Hawk.

Miscellaneous.- Thunderstorms occurred at one or more places in the state on every day except, 12th, 17th, 26th, 29th and 31st. But few reports of hail during the month.

The month was on the whole very favorable to agriculture.

North Carolina Weather During 1894. The North Carolina Experiment Sta-

tion has issued an attractively bound work entitled "North Carolina Weather during the year 1894." It embodies the results of meteorological and other observations of the state weather service during that year. The volume embraces 256 pages and includes a carefully prepared index and table of contents. It describes the work of the state weather service and through its several agencies, how it benefits the people of the state. The agencies are, the meteorological observing stations, the signal display stations, and crop reporting systems. The latter distributed weekly the weather crop bulletin for twenty-six issues, the signal stations display flags to note the coming of cold wave and frost warnings and changes in the weather, while the observing stations furnished observations for securing a correct record of our climate and weather. Another branch of the service which will prove of value

if the meaning is kept well before one, it is not apt to be misunderstood. Thirteen per cent means 13 pounds of available phosphoric acid in every 100 pounds of the goods; 10 per cent article contains 10 pounds to every 100, and consequently is 3 pounds less than the 13 per cent article.

A sample of fertilizer containing a large percentage of moisture in drving will not lose any of the other materials. The weight of the whole in bulk is less by the amount of drving but the original ingredients present in the 200 pound as first weighed will still be there, although there may not be but 185 pounds of the goods. But the analysis of the Fertilizer Control is generally made from samples taken after drying has taken place, and the decreased weight shows really a loss to the purchaser.

Grasses for Hay and comparative Values of Hay.

I have tried a number of kinds of grasses and red and white clover-but they all die out in a short time except Her is grass-that seems specially adapted to this sofi and spreads even where not sown. The land is swamp, the soil 12 to 30 inches deep and has a subsoil of clay. There is no marl within at least ten feet of the surface. Do you know of any other grass that will grow with the Red Top, and if so what? I have tried liming for the clover, but it did

no good. Is there anything else? What is the comparative value of the several grasses and clovers using timothy (hay) at \$1.00 per 100 ounds as a basis? Also give value of corn fodder and cultivated soiling corn drilled thickly and allowed to ripen. When will be the best time to sow this grass seed after my corn comes off, which will be in December? W. R. M., Yeatsville, N. C.

(Answered by F. E. Emery, Agriculturist, North Carolina Experiment Station.)

If the land is not too wet Timothy should do well with the Red Top. Bromus inermis may do well for you. Orchard grass is also one of our most vigorous species and may do well if the land is not too wet.

Would recommend either Orchard grass or Bromus inermis (Ownless Beame Grass) or this mixture 1 bushel Red Top Agrostis vulgair, 1 bushel Foul Meadow Grass, Poa scrotina 5 or 6 pounds Timothy seed and 4 to 6 pounds Perennial Red Clover.

Prepare the ground as soon as possible after the corn can be moved off. Sow the seed and top dress with stable manure and 200 or 300 pounds per acre of a good potassic manure or 500 to 1,000 pounds of wood ashes. This should secure a staud of grass if land does not overflow or is not too wet for the grasses named. Sow without oats. Grass does best without a nurse crop. From "Stewarts' Feeding Animals" a portion of a table is here adapted to show the relative values as requested.

Again the Funny Tombstone.

They have queer stonecutters down in Maine. Deacon Hackett lost his second wife lately, a scrawny and shrewish woman, whose loss was not an unmixed sorrow. Still the deacon decided to give her a monument. Being rather "near," he haggled with the village stonecutter as to the size of the slab, and finally chose a very narrow one at a bargain. The inscription was to be as follows:

SARAH HACKETT. "Lord, She Was Thine."

But the stone was so narrow that there was no room for the last letter, so the stonecutter left it out, with this result:

SARAH HACKETT. "Lord, She Was Thin ."

Everywhere We Go

We find some one who has been cured by Hood's Sarsaparilla, and people on all hands are praising this great medicine for what it has done for them and their friends. Taken in time Hood's Sarsaparilla prevents serious illness by keeping the blood pure and all the organs in a healthy condition. It is the great blood purifier.

Hood's Pills become the favorite cathartic with every one who tries them. 25c. per box.

Contempt Sure.

A juror having appealed to a judge to be excused from serving on account of deafness, the judge said: "Could you hear my charge to the jury, sir? "Yes, I heard your Honor's charge," said the juror, "but I couldn't make any sense out of it." He was excused. -London Tit-Bits.



We started by building cott presses-that lead to the pulleys and shafting to drive them. Then we went to making saw mills in the winter months. This demanded engines. We made them, and other demands were created. Almost anything vot want in the machinery line can be gotten from us. We have now large shops-far the largest in the State. and among the largest in South Write us for catalogue and prices. LIDDELL COMPANY, Charlotte, NC

Over 5,000 Cotton Presses.

We have sold more cotton presses than any manufacturer in the United States. We make presses for hay, for yarn and warp, and for cloth made in cotton mills. Cotton presses with capacities from 10 to 50 bales per day We furnish gins and modern gin house equipments, engines, boilers, saw mills, pulleys and shafting and mill gearing. Send for catalogue and prices to LM dell Company, Charlotte, N. C.

The Eagle Cotton Gin,

And elevator system of handling seed cotton. We represent them in North Carolina, furnish from our own factory the engine, boiler, press, put leys and shafting. Write us for calalogue and prices.

LIDDELL COMPANY, Charlotte, N.C.

Boilers.

We furnish boilers of all kinds, from 6 horse power to 150 horse power. Also engines, saw mills, cotton presses. yarn and warp, cloth and hay presse pulleys and shafting, mill gearing, and do repair work. Write for catalogue and prices to Liddell Company, Char-lotte, N. C.

Engines.

We have been building engines los nearly 20 years. Our business In grown from a small beginning and has carried us into many branches of me chinery. We do work for and furnal supplies for nearly every industry that exists in the State-ginneries, saw mills. grist mills, oil mills, cotton mills Write for catalogue and prices. LIDDELL COMPANY, Charlotte, N.C.

Modern Gin Houses.

Facilities for handling and ginning cotton at the least cost, and with the best results. Gin houses that can be insured because the fire risk is greatly reduced. Revolving box presses, steal presses, screw presses and hand pres es. A full equipment for ginneries cluding engine and boiler, pulleys and shafting, gins, elevators, fans and everything required including plans for the building, platform, scales, etc. We also build saw mills and furnisha complete equipment. Pulleys and shafting and mill gearing. Repairing done. Write for catalogue to Liddel

1-TENT CATERPILLAR-Clisicoampa disstria. These worms form dome shaped nests in the crotches or among the branches of various trees, but more especially the oak and hickory. They also attack fruit trees. In some seasons, they de- vour the foliage over large areas in swampy regions, and then migrate in such swarms as to stop passing trains. REMEDIES: Burn the nests out with a torch made by wrapping a rag satu- rated with kerosene around the end of a suitable pole. They may also be readily poisoned by spraying infested trees with Paris green, -1 lb. to 150 gal- lons of water. 2-FALL WEB-WORM-Hyphantria tex- tor. The webs of this insect become most painfully conspicuous in the late sum- mer and fall months. The worms usu- ally web together several leaves and eat the soft tissue, leaving the large veins and ribs. As fast as they consume the enclosed leaves they extend the	by which rounds of f the ap- rof places ts is near- idents re- ther crop all of the grical ob- 3 from all be to those lly desire to learn ion of the tation. Treey heif- s until six rely. The lives were milk with y % moth- milk was to until six y % moth- milk was to counce to those to those the above comparisons of too the above to four times as much as to the those those to those to those to those the above to four times as much as	TO WINDER Standard Standard Standard Standard S	Milk, Butter, Ezzs. Fresh meat, fish, water, fruit, ver tables, as well as milk, butter and eggs, are frequently loaded with genue of disease. If the stomach is main tained in a healthy condition, their germs are digested and eliminated from the system without produced any bad effect. Ayer's Sarsaparia any bad effect. Ayer's Sarsaparia
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