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

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The Vestibule,	Concord, N. C.
The Plow-Boy.	Wadesboro, N. C.
Carolina Watchman,	Salisbury, N. C.

Each of the above-named papers are requested to keep the list standing on the first page and add others, provided they are duly elected. Any paper failing to advocate the Ocala platform will be dropped from the list promptly. Our people can now see what papers are established in their interest.

AGRICULTURE.

Every farmer ought to be posted in law, at least sufficiently to keep out of law suits.

If stock are allowed to run down in condition the expense of getting into good thrift again will cut materially into the profits.

It is all very well for a man to have a bald spot on the top of his head, it does little harm; but let him beware of one on the inside.

A Michigan experimenter finds beans a cheap and satisfactory nitrogenous feed to mix with corn for hogs. He fed eight tons of them this winter, thoroughly cooked, and fed while hot.

It is the steady, even going farmer who comes out best in the end. It is not best to rush out of pig raising because of the low market, and then rush in again when it comes up; yet there are a great many who do just this sort of thing.

A Western farmer, having kept about 200 sheep on his 200 acre farm for the past twenty years, now desires to sell the flock because his land has become too rich to raise flax, wheat or other of the small grains. This is surely an unusual reason.

No animal upon the farm requires so long a time to overcome the effects of over feeding as does the sheep, and when a steady gain is necessary in fattening, special care must be taken in regard to this point. There is some risk in feeding growing lambs.

The Southeastern Iowa Horticultural Society has unanimously passed a resolution declaring the foreign apples, pears and plums, especially of Russian origin, being sent out by Prof. Budd, of the experiment station, to be total failures in that part of the State.

The larger an animal the more it costs to maintain it, as a rule; hence it will cost much more, in proportion to weight, to produce a hog weighing 300 pounds than one weighing 100 pounds; consequently there is a larger profit per pound from the small hog than from the large one, and the farmer can keep more small hogs than he can of large ones.

THE NASHVILLE EXPOSITION.

Hon. T. F. P. Allison, Commissioner of Agriculture for the State of Tennessee, is at the head of the Agricultural Department of the Tennessee Centennial Exposition, and is working assiduously to present to visitors the most elaborate agricultural display ever seen on the continent, and with every prospect of success.

At a meeting of the Centennial Executive Committee the other day, Mr. Champion, General Counsel for the Exposition Association, presented the necessary papers for the transfer of the Agricultural Buildings to the State; so Tennessee's agricultural exhibit will be distinctively official.

The Agricultural Building is a magnificent structure, originally intended to be 500 feet long by 200 feet wide, but it has been made much larger. It is in the Renaissance style of architecture, with a central dome rising to a height of 100 feet and six minor domes of faultless proportions, The four entrances lead under beautiful arches, embellished by carving and surmounted by statuary. The management intends to have the full power and scope of electric lighting displayed in this building, and the electrical decorations will be superb.

The building is beautifully located on the grounds, and its classic lines and fine proportions are seen to advantage from all directions.

Commissioner Allision has recently issued a geological and county map of Tennessee that sets forth the resources of the State in a very clear and precise manner. The opening paragraph may serve as a text upon which a sermon might be preached on the infinite possibilities of the future. It says: "Tennessee needs thrifty and reputable immigrants, because the farmers of the State have more land than they can cultivate, and there are more mineral resources that have not been developed than those that are now producing wealth. There is no room here for the shiftless or for transients but for farmers and others in the North and West, who have battled with the elements and inconveniences of newly-opened territory, and who have laid by enough to purchase homes for themseves, to be improved and enjoyed by their children, there is truly no place like Tennessee."

And then there is a chapter on climate and precipitation that is truly amazing, and those who have not familiarized themselves on those important features will hardly credit the statements, but they are perfectly true. The mean annual temperature, we are told, is 60 degrees; for the Eastern Division, 58; Middle Division, 60, and Western Division, 62 degrees. Imagine a climate like that of Northern Italy or Southern France, Spain or Japan. A land where a farmer can grow melons to perfection in summer and rather a good ice crop in the winter. A land where every single thing can be produced that can be grown in any other portion of the continent. That statement is not exaggerated in the least; the assertion is proved, and the products tell their own story. And yet there are thousands of acres lying that can be bought for little money, and, with proper care, made to produce profitable crops of almost any kind the owner desires. Plenty of these lands have transportation near at hand, and are situated within easy reach of towns, where all the necessities of life can be procured cheaply and with little trouble.

The exhibit of the agricultural resources of the State of Tennessee at the Centennial Exposition, at Nashville, which opens May 1 and will remain open for six months, will give to the people a most excellent idea of what has been produced, but it cannot even give a hint at the possibilities. For example, the corn crop has never failed entirely in Tennessee, and it rarely suffers damage from insects or irregularity of rainfall, or from any other cause. The quality of the corn grown is unsurpassed, and it attracts attention wherever exhibited. Then, again, in the matter of wheat-raising, the average number of bushels raised per acre has been steadily increasing, due to a more general use of fertilizers, and the next four years will witness a still further increase.

Tennessee forms part of the Northern limit of the cotton-producing area of the United States, and for some years the growing of the staple has been declining in favor. Tennessee secured the highest award at the world's first great exposition at London, in 1851, for the best sample of cotton.

In the growth of tobacco, Tennessee ranks fourth among the States of the Union in acreage. The total value of the crop is about $2,000,000 yearly, and the average for several years show that the production is 707 pounds per acre. About 10,000 farmers in the State grow tobacco to market, and as many more grow it for their own use.

The growing of "Irish" potatoes as a field crop for shipment has proved a most important pursuit. In 1879, this industry was entirely omitted from the Federal census. Northern farmers will be surprised to learn that two crops of potatoes and a crop of something else can easily be grown in one year on the same land, and it is frequently done. The second crop is especially esteemed for seeding purposes, besides keeping well. Sweet potatoes are also raised for shipment. Peanuts, all the fruits, tomatoes and grapes thrive luxuriantly. Strawberries are grown as field crops, and a strawberry patch of fifty or seventy five acres is not uncommon. The fruit is in great demand in New York markets. Tomato fields of 100 acres are common everywhere, and many vineyards have over 5,000 bearing vines.

The products of the field, the vine yard and the orchard will be displayed at the Tennessee Centennial in a manner that is at once novel and attractive, and a person will be enabled, at a glance, to secure any desired information on any given subject. The arrangements in the building for grouping, etc., have been carried out in the most elaborate manner, and it is a revelation. Those who have even lived in the State all their lives will be compelled to acknowledge that previous to the Tennessee Centennial "the half had never been told."

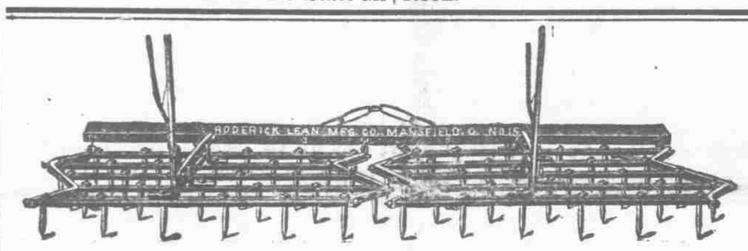
There will be novelties in the way of agricultural productions on exhibition that were not dreamed of in the philosophy of most of us. There will be ginseng, coarse, rough looking roots, that bring $2 per pound anywhere, and yet it grows wild in the woods. Then there is ramie, which can be grown luxuriantly, and which is used as an adulterant in the manufacture of silk, from which it can hardly be distinguished. Next on the list is castor oil, the palma Christi, which, sown in early spring, will be fifteen to twenty feet high in the fall, with a stalk four or five inches in diameter at the ground. Everything grows proportionately in Tennessee.

SOW CLOVER SEED THICKLY.

As this is the time for clover and grass seeding, suggestions as to the amount of seed per acre are in order. It is the poorest kind of economy to seed thinly. That means on most land not only a deficient stand of clover and grass, but generally a growth of weeds to fill out the space which the farmer has left unprovided, for nature abhors a vacuum, was the observation of the old philosophers. If the valuable seeds are not sown there are plenty of weed seeds ready for just such opportunities. Our usual practice while farming was to sow fully six quarts of medium red clover seed per acre on land that had grown a clover seed crop some years before. On land where clover seed had never been grown, one peck per acre, or a bushel to four acres, is none too much, says the American Cultivator.

The alsike clover seed is smaller, and will bear to be sown in less amounts. But the alsike will not grow so large stalks as will red clover, and therefore the effect of too thin sowing is to let in more weeds. The alsike seeds with its first growth in spring, and if this is allowed to ripen some of the seed will fall on the ground. Alsike and also red clover seed has the faculty of remaining inert for years, until it finds favorable circumstances for growing. We have seen a good deal of alsike clover in a timothy sod three years old. At first we supposed that it had been sown with the grass seed three years before, but learned that it was from an alsike seeding 10 or 12 years earlier, and that some of the alsike clover had appeared each time the field had been plowed and seeded since that date.

We think that farmers generally sow more heavily to clover than they used to do. They find that a clover seeding evenly covering all the ground accumulates fertility at a cheaper rate than they can put it on the land in any other way. It is time a thin seeding on rich land will grow clover plants so large that they will occupy the whole surface. But this coarse clover is hard to cure, and if the soil is very rich it will some times fall and rot on the ground before it can be cut. It is much more likely to do this than is clover sown so thickly that the plants have thin, weakly stems. The same result is shown when timothy seed has been fall sown, the grass checking the growth of the clover, and both being thinner stemmed than clover growing alone, the hay is much more easily cured, and is, we think, liked fully as well by stock.



Probably the greatest enemy of the farmer is weeds, and probably greater loss results annually to the farmer from the ravages of weeds than from any one single element or cause. Accepting this as a fact, it naturally follows, then, that the primary object of cultivation of any kind is the destruction of weeds. It must be true, then, that the implement or machine which will successfully destroy or exterminate weeds without harm to the growing crop, must be one of undoubted value and a great boon to the farmer. It thus transpires that the modern small tooth lever harrow, such as is shown above, has become a prime favorite wherever known. As a weed exterminator and conservator of moisture, it is without a parallel. Any so called hoed crop is greatly benefited by being worked with this implement. The teeth are so arranged that every particle of soil is stirred several inches in depth. All weeds that have sprouted are thus rooted up and turned up to the sun to die. Repeated treatment of this kind will kill every weed in a given area. The mulch or top covering of fine soil effectually destroys capillary attraction and thus preserves the moisture in the soil. The angle at which the teeth is placed by the top levers allows the teeth to slide over the growing plants of the crop without injury, while the tender shoots of weeds suffer in consequence. This is an ideal tool and this is an ideal treatment for corn and potatoes. If this harrowing is begun as soon as the plants appear above ground and is kept up until the plants are six or more inches in height, or until they are large enough to stand the cultivation, the weeds will all have been torn up and exposed to the blighting influence of the sun and will be effectually exterminated for that reason.

This particular harrow is the Lean All Steel Lever Harrow, manufactured by the Roderick Lean Manufacturing Co., Mansfield, O, whose ad. appears in another column of this paper. Write them for catalogue and circulars.

TWICE PLOWING THE GARDEN.

It is a good plan always to have the garden fall plowed and left as rough as possible, so as to expose a greater surface to the action of the frost. On this surface manure can be drawn and spread while the ground is covered with snow. The very slight cultivation needed to smooth the surface and prepare the seed bed will cover most of this manure, leaving it just under the surface where it will be the most effective. This earliest planting of the garden should be wholly on one side, so as to give opportunity before the planting of later garden crops to plow and replow it. No one who has not tried this knows how much good it does a garden of plow it twice in the spring. The first plowing turns some of the manure to the bottom of the furrow, where it lies loosely, warming and drying the soil above it. The second plowing brings up this buried manure, and also returns to the surface much of the fine tilth made by frost and which the first plowing turned under. Soil so rich as the garden is cannot get too much cultivation. Old-fashioned as the plow is, it can be used twice in the garden with good effect, and the second plowing will often do more than can be done by any surface cultivation without it.

Some facts worth repeating are very patent to the observing, enterprising stockman. Scrub cattle will not pay, because fed at a loss; they will not sell at the top price at any time; they have taken the same care as better ones, have required a longer time to mature, and, in consequence, have consumed more food.

THE DAIRY.

CROSS-BREEDING DAIRY COWS.

(The article below was sent to Hoard's Dairyman, but did not meet the approval of that paper, for some reason. We publish it, it being our policy to give writers plenty of liberty in expressing views, though they may not always be according to our way of thinking.—EDITOR)

Replying to your recent request for some facts relating to the cross breeding of cattle, as far as justified by the practical experience of the writer, I will endeavor to throw some additional light upon a very important and complex problem in breeding. Neither the writer's experience nor the necessary limits of such an article will permit of a very thorough or elaborate presentation of the matter, but I hope others more competent will take up the subject where I am compelled to leave off. Mr. S. Hoxie's request for facts about "cross breeding," in your paper, somewhat surprised me, as I would suppose no one was more capable of writing authoritatively on such a subject than the veteran breeder of Guernseys and Holsteins. Probably he desires to see whether the experience of others coincides with his own.

I once was part owner of a small but very select herd of high priced, highly-bred and well fed Holstein cattle. We paid $250 each for calves under six months of age, up to $500 for yearlings, paying these prices in order to get the best "butter bred" strains of the breed. That was before the Babcock Tester and its accompanying appliances and methods revolutionized the value of cows and made the "battle of the breeds" become one of actual performance (and value of product based on its market value, showing the percentage of profit or loss over cost of production), instead of fictitious records of imaginative breeders.

Our Holsteins gave us large flows of milk, making an average of 40, 50 and and 60 pounds of milk per day, but we soon found that the amount of butter made was not over half what we had been led to expect. Tests with the Currie Oil Test Churn, and later with Dr. Babcock's method, showed that honestly we could not show an average of over 2½ to 3 per cent. fat, and although the large yields of milk brought the amount of butter up to the average of grade herds, yet for a breeder of thoroughbred stock to carry (for an instance) to the local creamery milk showing the lowest percentage of fat of any patron was both embarrassing and humiliating. We then tried to dispose of our milk by conducting a retail milk business, but found we sold the poorest quality of milk offered. We also found the amount of feed consumed to be enormous and out of all proportion to the value of fat product.

We then introduced some high grade dairy strains of Durhams, crossing them with registered Holstein bulls. The Durhams gave a milk slightly higher in percentage of cream and fat, and I would estimate about 10 to 25 per cent. and about the same percentage less in amount of milk. Although the Short-horns were docile, and in many ways desirable, yet we found their tendency to "dry up" and lay on fat, made them unprofitable from the true dairyman's standpoint.

Then the changes of time and the vicissitudes of fortune brought us to the "Sunny South," where in the same stable, under the same conditions, we could compare Holsteins, Jerseys and Guernseys, and their offspring, through a Guernsey sire.

The result of a test made in February, 1895, by the Babcock to show quality of milk, quality and quantity of feed gave

2 purebred Holsteins 1 7 per cent. pure fat.

2 purebred Jerseys 4 5 per cent. pure fat.

14 purebred Guernseys 5 5 per cent. pure fat.

2½ Holstein and ½ Guernsey 3 8 and 4 2 per cent. pure fat.

1½ Guernsey and ½ Jersey 5 per cent. pure fat.

1½ Jersey and ½ native calf 4 per cent. pure fat.

My conclusions were that the Holsteins ate 100 per cent. "roughage" or "coarse fodders," and 50 per cent. more grain and would produce 25 to 50 per cent more milk and make one-half as much butter to the 100 pounds of milk as the Guernsey or Jersey.

That the Jersey ate the least rough forage, about as much grain as the Holstein, gave about 25 per cent. less milk than the Guernsey of about the same quality, but not of as high a color.

That the "cross-breds" gave an average amount of both milk and butter, and equally partook of the characteristics of either the sire's side or the dam's, more or less of both, in a reduced degree. For instance, a Holstein-Guernsey cross resulted in a cow smaller in size, and giving less milk than the Holstein, but richer in quality. That the Guernsey gave the most milk and made the most butter for food consumed, about 25 per cent. more milk than the Jersey and 25 per cent. less than the Holstein, and made as much butter as any breed, that they varied less in quantity, and in short averaged up better.

As to "cross breeding," I do not advocate it. I can see nothing to be gained by crossing one pure breed on another, the only profitable "crossing" being the use of a purebred male of either Guernsey or Jersey strains upon the ordinary grade or native stock. I do not advise using Holstein bulls, because of their excessive, size frequently injuring small cows at service, and the large size of calf rendering delivery both difficult and dangerous; and also, because Holstein milk is poorer in quality by 50 per cent. than the milk of the average grade cow.

My principal objection to the Jersey bull is on account of their ferocious disposition, after one year old, rendering them unsafe to keep or handle by even experienced persons. I use, myself, the Guernsey, and advise others to do the same, because they are of good size, docile disposition, and last and most important, because their offspring pay the biggest dividends, and when low prices economy of productions solves the question of profit or loss.

ELLIOTT WARREN.
Sedgefield Stock and Dairy Farm,
Winston, N. C.

WHO IS THE SLAVE?

Correspondence of the Progressive Farmer.

A few years ago I was telling a farmer how I took care of my cattle. I had told him that after the morning feeding if the day were pleasant, they were let out to drink and sun themselves for an hour or two, but if it were stormy or a cold day wind blowing, they were put into the stable as quickly as possible; that at noon they were fed a ration of hay and again let out if the day were sunshiny to drink and exercise until time to put them up for the night.

My friend said: "Well, you are a slave to your dairy."

This was pretty plain talk and I have thought of it many times since; and it seems to me that about all the difference there is between success and failure in dairying at present lies in the care taken in conducting the business. Sharp competition has narrowed the margin of profit until it practically disappears in cases where strict economy in feeding is not practiced, where the comfort of the herd is not well considered and where great care is not exercised in making and marketing the milk product.

It may be a whim on my part, but everything else aside, I like to know that my cows are enjoying themselves. I do not like to think of them as being hungry or ill at ease in any way. An uncomfortable cow is in no condition to do her best. There is no theory about this; it is the plainest common sense imaginable. If we want to get the greatest possible good from our business we must attend to the smallest details connected with it. We learn this very slowly. It may be that we are obliged to spend all the time if we would succeed in our occupation; but men in other lines of business expect to do this; why should not we? This world is made up of details. The farmer cannot escape; and he will do well not to look upon his calling as slavery, but as devotion to a principle of the higher value to the age in which we live.

E. L. VINCENT.
Broome Co., N. Y.

As spring time approaches, which is also the farrowing time for sheep, cows and hogs, the advantage of having a good supply of roots to promote milk flow becomes apparent. It is not true that roots are cheap in nutrition, for their bulk and weight is very largely water. But as an appetizer and to increase milk flow they cannot be surpassed. Beets and mangel worzel are the best roots, the latter having the advantage of being good keepers, and can be used up to the time the grass is forward enough to furnish a good bite.