

FARM AND GARDEN

JUDGING CATTLE.

A Scale of Points Authorized by Different Associations of Breeders.
Frequent requests received at the bureau of animal industry for the scale of points in use for judging cattle of the several breeds adapted to the dairy have led the bureau to collect and publish as circular No. 48 the latest forms authorized by different associations of

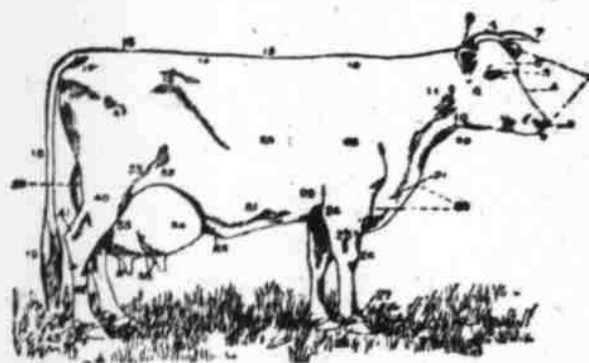


DIAGRAM OF COW, SHOWING POINTS.
1, Head; 2, muzzle; 3, nostril; 4, face; 5, eye; 6, forehead; 7, horn; 8, ear; 9, cheek; 10, throat; 11, neck; 12, withers; 13, back; 14, loins; 15, hip bone; 16, pelvic arch; 17, rump; 18, tail; 19, switch; 20, chest; 21, brisket; 22, dewlap; 23, shoulder; 24, elbow; 25, forearm; 26, knee; 27, ankle; 28, hoof; 29, heart girth; 30, side or barrel; 31, belly; 32, flank; 33, milk vein; 34, fore udder; 35, hind udder; 36, teats; 37, upper thigh; 38, stifle; 39, twist; 40, leg or gaskin; 41, hock; 42, shank; 43, dewclaw.

breeders of cattle as a convenient means of furnishing the information so often sought.
In addition to the accompanying diagram scales of points are given for the Ayrshire, Brown Swiss, Devon, Dutch Belted, Guernsey, Holstein-Friesian, Jersey, Polled Durham, Polled Jersey, Red Poll and Shorthorn breeds.

SEED CORN.

A Farmer Should Select and Develop Corn For His Own Locality.
No person can grow as good seed for the farmer as he can grow himself. And certainly when he finds it necessary to purchase seed he should not have to go far from home. People say seed "runs out." They say a change of seed is necessary; they say that they must bring in new varieties from a long distance in order to increase the vigor. A scientist and practical farmer, Professor Andrew M. Soule of the University of Tennessee, affirms that all these things are untrue. Seeds, he says, run out because they do not receive the care and attention on the average farm that the originator gave them in their process of development.
Corn has been grown on the same farm and on the same land for years and years and has gradually improved throughout the whole period. Notable examples of this are found in the case of Boone County White, developed by Mr. Riley of Thornton, Ind., and Early Learning, developed by J. S. Learning of Wilmington, O. These varieties, through intelligent selection, have become two of the standard varieties of the great corn belt.
Professor Soule recommends the farmer to produce his own seed corn because it is a needless expense to purchase fresh seed every year, and when once he obtains a variety adapted to his soil and climatic conditions it will give a larger yield and prove more satisfactory if he selects it so as to keep the type uniform and the quality and yield up to a certain standard.
Probably it is more important that the farmer produce his own corn seed than the seed of almost any other crop because the plant is so susceptible to climatic influences. Notice the difference between the characteristics of corn produced in the semitropical regions and of that growing in Minnesota. Under irrigation in Mexico often from three to five large ears are obtained, and the stalks frequently reach a height of from eighteen to twenty feet. In Minnesota, on the other hand, the ears are small, and the stalk is not more than from five to eight feet high. A well established variety of river bottom corn, such as Huffman, when grown on uplands frequently proves unsatisfactory.
The studious farmer has noted that the variety of corn that does well on his neighbor's farm may not do as well on his. He has also observed that corn brought into Tennessee from Iowa or even from Ohio does not do well the first year, though it may do better the second and third. On the other hand, he has sometimes observed that corn brought from neighboring states and counties is an utter failure. All these things plainly teach us that the farmer should pay attention to the selection and development of corn for his own locality and for his specific needs.

Rice Acreage of United States.
A preliminary report to the chief of the bureau of statistics of the department of agriculture shows the total acreage of rice in the United States this season to be about 643,400 acres, distributed as follows:
North Carolina, 1,800; South Carolina, 33,300; Georgia, 9,000; Louisiana, 305,100, and Texas, 234,200 acres.
The rice acreage of the country has increased 83 per cent within the last five years and is now four times as large as it was fifteen years ago. In 1890 Louisiana and Texas contained 59.9 per cent of the total rice acreage of the country. Now these states contain 93.1 per cent of the greatly increased total.

Echoes From the Press.
According to current report, a smooth tongued creamery promoter nearly worked the farmers of one of the southwestern counties of Missouri to the extent of \$3,800 for a plant worth at most \$2,000 and in a country with few cows and of very doubtful fitness for dairying. Go slow with the cooperative creamery.
By the use of irrigation California, with much the same climate as Georgia and Florida, only drier, has been able to raise fruits so cheaply that she can ship them 3,000 miles and compete with those grown in these states.
The Americans are great banana eaters. Every year we import from 25,000,000 to 30,000,000 bunches of this nutritious fruit, for which we pay between \$7,000,000 and \$8,000,000.
Stem rot of the potato has been reported as very heavy the past two years in the south, the southeast and the west.
Speed the plow and sow grain.

OATS IN OPEN FURROW.

The Up to Date Way to Prevent the Winter Killing of Fall Sown Oats.

Oats are reviving in popularity as a crop for fall sowing since a way has been found out of the difficulty of winter killing. This Georgia experiment station has found in the plan called "sowing in open furrows." According to a recent press bulletin, during the years 1890 to 1895 the station found that oats sown in drills eighteen to twenty-four inches apart invariably gave a larger yield than when sown broadcast and plowed or harrowed in. But a more important discovery is the fact that when the seed are sown in open furrows and barely covered, leaving the furrows open or unfilled, the oat plants are very much less liable to be killed by a severe freeze. The idea was conceived several years ago, and annually since the station has sown the larger portion of the fall sown area in drills eighteen to twenty-four inches apart, latterly using a fertilizer distributor. This sows but one row at a time, has no covering attachment, but simply opens a small furrow and sows the seed, the single wheel following in the furrow and barely covering the seed. The result is the plants come up one and a half to two inches below the general surface and the "crown" of each plant is formed and established, say, two to two and a half inches below the general surface. The winter rains, light freezes and thaws gradually but only partially fill in the open furrow, and the more vital and sensitive parts of the plant are left at the original depth, below the reach of even very severe freezes.
With the great freeze of Feb. 8, 1899, the "open furrow" drilled oats received a severe test and came well out of it. Five years' further experience has fully confirmed the conclusions then reached. To the foregoing Director Redding of Georgia adds in an exchange these items:
Sixteen inches apart is probably the best width between the oat furrows. The oats may be sown in a cotton field without further preparation than the previous clean culture of the cotton. In this case two furrows may be sown in each "middle." In all cases the furrows should be laid on a level in order to secure best results.
Some seed and fertilizer drills are now made with two spouts, one for the seed oats and one for the fertilizer, the oats being sown through the forward spout. It has not been found necessary to use the covering attachment, the loose soil falling in immediately following the opening five inch shovel (or short scooter), covering the oats sufficiently. It somewhat facilitates the work of the harvester to run a weeder or a light harrow across the furrows in March or April.
From Sept. 1 to Dec. 1, three months, marks the limits of the sowing period. In extreme north Georgia and Alabama and perhaps the greater part of Tennessee and corresponding latitudes and elevations September is not too early. As the latitude and altitude decreases the sowing may be later and later until the last half of November may not be too late for the southern half of the gulf states.

Experience With Cowpeas.
Thirty-four varieties of cowpeas were planted in a Kansas field trial. The New Era variety gave the largest yield of gain, 11.07 bushels per acre. Only a few of the varieties matured

Varieties of Cowpea.
1, New Era cowpeas; 2, Clay cowpeas; 3, Whippoorwill cowpeas.
seed, and as a grain producer the soy beans are preferred to cowpeas for growing in this state.
Cowpeas make a ranker vine growth and are usually to be preferred to soy beans for prodage production, several of the better producing varieties yielding on an average 2.5 tons of dry fodder per acre. The Whippoorwill cowpeas, a medium early variety, is well known and most extensively grown in this state.

School Gardens.
Yonkers, N. Y., has a "school garden," in which 240 enthusiastic boys have this year been learning to grow "truck" under the care of an experienced gardener. There are also two smaller gardens, in which girls are taught the art of growing flowers. So successful have these gardens been that they will be maintained on an extensive scale next season.

News and Notes.
It appears that for some reason American canned tomatoes have not held their own this season in English markets, being crowded out by the continental product.
The twelfth national irrigation congress meets at El Paso, Tex., Nov. 15-18. A. W. Gifford, El Paso, is secretary of the committee on arrangements.
The passing of the wooden farmhouse is predicted for the twentieth century. Brick and cement are pushing forward rapidly.
The Nut Growers' association will meet on Oct. 26-28, the Creamery Butter Makers' on Oct. 24-26 and the Apple Growers' on Nov. 9-11, all at St. Louis.

CHEAP SHEEP SHEDS.

Mr. Jamison of Ohio Has Found a Covering of Fodder Satisfactory.

Five years ago, not having straw to cover a necessary temporary stock shed, my hired man suggested that I use fodder, as it was plentiful. The frame that was used then has been covered yearly since and has been found the most satisfactory cheap shed I ever used. With the fodder of good quality and put on carefully it will come off in the spring with very little waste by spoiling, says John M. Jamison in the National Stockman.
This shed is 100 feet long, 16 feet wide and extends south from the southwest corner of a barn shed. This gives both sides of the roof the same weather exposure. The rafters on the west side rest on the top rail against the posts of a post and rail fence. The top of this rail is about four feet from the ground, as are the tops of posts on the other side of the shed. Nine feet is a very good distance apart for the rafters and about right when eleven foot fence rails are used to lay across them for the fodder to rest on.
The center posts are nine feet high and would be better if they were a foot or two higher. A white oak pole makes an excellent post and should be six or seven inches in diameter at the butt after the bark is off. If a seven inch post auger can be used to bore the post holes about three feet deep the posts will fit the holes closely and remain firm.
On top of the post can be spiked a pole or other piece of timber for the rafters to rest on. The rafters should have notches cut in both ends to fit on top of posts and on top of rail or pole at top of shed. The cracks in fence on west side of my shed are closed by boards nailed over them to keep sheep from eating fodder set against the fence to keep out the wind.
The rails or poles used to lay the fodder on should be spiked in place. If durable timber is used the poles will last for years. Along the west side against the fence I place a course of bundle fodder, putting a bundle down and laying the top of the next bundle upon it. Laid so this course will be about three feet high. Against this I set a course of bundles, pressing the tops against and bending them over the top of the fence. With this done, I am ready for the first course of bundles on the roof on that side. This ex-

consideration to canals and reservoirs, the division and conveyance of water, than to its distribution and application to the soil. The time is coming when the most important problems connected with irrigation will be the needs of the plant as regards moisture, and not, as at present, those of storage and conveyance. An interesting report has recently been made to the office of experiment stations by Dr. Elwood Mead, the expert, which covers the matter of preparing land for irrigation and the methods of applying water. Dr. Mead gives high credit to the comparatively small number of farmers in this country who have devised the present methods of using water.
Among methods of preparing land for irrigation the building of laterals as carried on in Colorado and Wyoming is described as follows:
In building laterals the first thing to be considered is the lay of the land over which the water must be made to flow. Judging the true slope of ground by the naked eye is very uncertain, for even the most experienced are often deceived as to whether the surface of the land rises or falls in a given direction. Where possible every system of laterals should be laid out with an engineer's level and a contour map made of the whole area. In lieu of the services of a surveyor the irrigator may lay out his own laterals, using one of the many types of homemade leveling devices. The average grade for field laterals should vary from one-half inch to one inch per rod, depending upon the nature of the soil.
No special devices are manufactured and put upon the market for building laterals, and farmers have been obliged to depend upon their own ingenuity. The following device was constructed to simplify the work of excavating ditches. Two steel beam plows, one with a right and the other with a left share, were placed side by side and their beams riveted together. The shares of the plows were spread to give

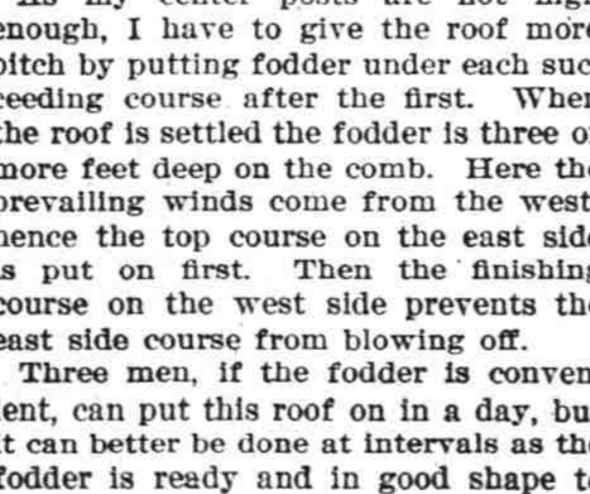
the furrows a width of two feet on the bottom. The rear ends of the shares were rounded instead of being drawn to the usual point. Above the moldboards of the plows and riveted to them were placed the right and left moldboards of old alfalfa plows. The handles bolted to the lower moldboards were spread wider than in the ordinary plow and were braced to the beams. The beams running side by side were bent apart toward the end, affording an opening wide enough to insert a 4 by 4 inch timber two feet long, which is bolted in place and on which the clevises are fastened.
This plow is drawn by from four to eight horses, according to the character of the ground and depth of the lateral to be made. In one operation it turns two furrows to opposite sides of the ditch and throws them high on the bank, leaving an unusually clean bottom about two feet in width. Many plows of different sizes, similar to this, made entirely on the farm or with the help of the village blacksmith, may be seen about Greeley, Colo. Another homemade furrowing device is the so called "A," which is drawn through an ordinary plow furrow and crowds the loose earth to the sides.



A HOME MADE LATERAL FLOW.

PODDER COVERED SHEEP SHED.

tends out over the fodder setting against the fence and holds the tops of it down on the top rail. In bundling the fodder I use binder twine strings cut four and a half feet long, then a loop tied in one end to slip the other end through when tying the bundle. The string should be put around a little above the center of the handle. This gives a better chance to place the bundle properly and have the string covered by the next course.
When putting on the roof it is best to start all the courses at the same end. I commence each course at the north end, finishing at the south end; then, when taken off, commence at south end, and each bundle comes off free. Put on in this way it is only necessary to protect against the wind by fastening a few bundles at the south end. To cover my shed it requires about 150 shocks of fodder cut fourteen hills square, about eight bundles to the shock, and 1,200 for the roof. One row of bundles for the first course on my shed has always turned the water after the roof settles.
As my center posts are not high enough, I have to give the roof more pitch by putting fodder under each succeeding course after the first. When the roof is settled the fodder is three or more feet deep on the comb. Here the prevailing winds come from the west; hence the top course on the east side is put on first. Then the finishing course on the west side prevents the east side course from blowing off.
Three men, if the fodder is convenient, can put this roof on in a day, but it can be done at intervals as the fodder is ready and in good shape to handle.

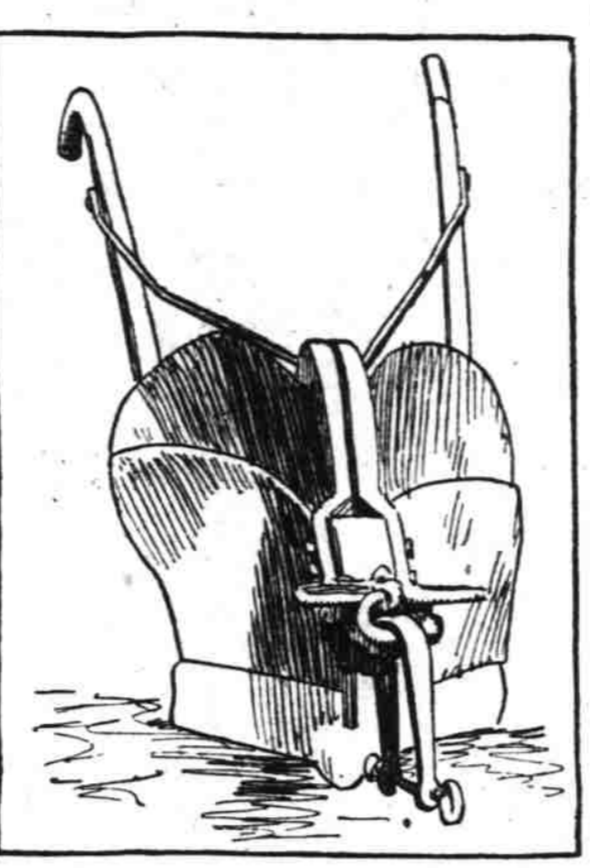


HOME MADE LATERAL FLOW, REAR VIEW.

FARM AND GARDEN

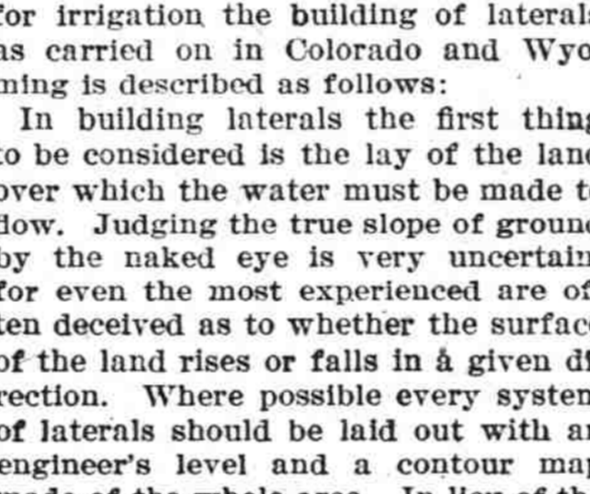
IRRIGATION METHODS.

Preparing Land to Receive Water—A Plow For Excavating Ditches.
Interest in irrigation methods and practices is by no means confined to the really arid regions of the west. The advantages of a controlled water supply are often made convincingly apparent in humid regions. It is claimed that in regions of the heaviest average rainfall irrigation in dry years has very well repaid market gardeners and farmers.
The art of irrigation in this country has naturally heretofore given more



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