September 8, 1909

## FARMER'S ADVOCATE AND HOME JOURNAL WINNIPEG

#### AGRICULTUR SCIENTIS **AND** T S

FEATURES OF DARISH CATTLE BRIEFING granted in presence of the period of Denmark, reviewing fairly closely the system quality of milk of the individual cows collected by of one ton of dry matter, the remainder being followed by the Danes in breding up their stock the Control Unions is taken into account in evaporated from the soil. To produce twelve from foundations of very low quality into ani- awarding the prizes at the shows, and is also bushels of wheat and twenty bushels of barley per acceleration. Of this quantity, from 200 to the production of the product of the from foundations of very low quarty into and an antifing the pilles of the cows to be served by acre there must be lost from the soil not less ticularly. in Denmark has been gradually developed in two quite distinct directions; some features of the work aim at encouraging prominent breeders to develop herds capable of transmitting the most develop herds capable of traismitting one other periment Station, England, submitted a paper in hy supplying water to plants, the amount of water valuable qualities of the breed and to induce other periment Station, England, submitted a paper in hy supplying water to plants, the amount of water valuable qualities of the breed and to induce other perimeter betation, inighted, builder the putter is supprying water to plants, the amount of water breeders to take up this work, while other edge, which the experimental work in wheat, under this available for the crop depending on the size and breeders to take up this work, while other the mer capital on at Rothamsted since 1843, were arrangement of the soil grains and the quantity of the size and the better utilisation of the improved arrangement of the soil grains and the quantity of

together; from the sixties there were separate each year to support a crop of those dimensions.

idea being to draw the attention to the best EFFECT OF ENVIRONMENT ON COMPOSIherds, which can more safely be done when a collection and not a single individual is shown. In F. T. Shutt, Dominion Chemist, summarized the 1887 the State caused to be held special shows for results of experiments carried on in the Dauphin bulls over three years old for the purpose of en- district. in Manitoba, and in the irrigated lands buils over three years old for the purpose of en- districts in Manitoba, and in the irrigated lands couraging farmers to keep the good bulls for a near Lethbridge, in growing wheat from the longer time. The result has been striking, the same stock on new land and on land that had been number of old bulls shown having increased from under crop for a number of years. Wheat grown 371 in 1887 to over 1,200 in 1908. A special on new land was invariably lower in protein, and Danish feature, has been introduced with these contained, more moisture than that grown in 371 in 1887 to over 1,200 in 1908. A special on new land was invariably lower in protein, and Danish feature has been introduced with these contained more moisture than that grown in shows, viz., judging the bulls through their off-older-cultivated soil. Experiments on the irri-spring, inasmuch ås no prize is awarded for bulls over nve years old unless their offspring, which must be judged before the show, have been found satisfactory. This entails a good deal of work, but has been found very useful MILLING PROPERTIES OF CENTRE but has been found very useful.

The judges at shows take into consideration not only the points of the exhibited animal, but also in the case of bulls the pedigree, including infor-reviewed results of baking tests made with twelve mation of the milk production of the dam, and samples of wheat. Tables given showed that in the case of cows the milk production (quantity

The herds are entered for a competition which is carried on during two whole years by a committee the tables given showed that the bread made from of judges who visit the herds on the farms five or the winter wheat was not the equal of that made of judges who visit the herds on the farms inve of the winter wheat was not the equal of that in any six times, while assistants on every twentieth day during the two years visit each of the competing herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds, weigh the milk of each cow, test its per-herds the test of one test test of the test of test of the test of the test of the test of t herds, weigh the milk of each cow, test its percentage of fat, weigh the fodder given to each blended with that of Ontario, which had made a cow, and draw up the fami,y herd - book, in which the whole herd is arranged according to maternal descent, each ani-of either of the constituents alone, and thus was of producing transportation facility of activity of the constituents alone, and thus was according to maternal descent, each ani-mal being described with its sire and dam, milk production and prizes. At the end of two years' testing the committee of judges have acquired re-liable information as to the value for use and for breeding of the different herds. The best herds are then designated as "Breeding Centers," with the result that the demand is increased for breed-the result that the demand is increased for breed-

Following the proceedings summarized in our of fat, weighs the food given daily to each cow, last week's issue, the agricultural section of the and keeps account of it all. He further keeps a British Association for the Advancement of book of the serving and calving, with all information concluded its pre-arranged program, and tion necessary for the family herd-book. The first deliberations on September 3rd. Control Union was formed in 1895; now there are past week important discussions took 479 with 10,925 members and 187,345 cows, or puring the past week important discussions took 479 with 10,925 members and 187,345 cows, of the science on subjects closely related to agriculture in comprising over 17 per cent. of the total number of cows in the kingdom. The work is carried on by 500 controlling assistants, the State giving a by 500 controlling assistants, the State giving a is withdrawn from the soil through the plant and dresses being here given. FEATURES OF DANISH CATTLE BREEDING grant of 141. per union yearly

The work of improving cattle breeding the bulls of the Cattle Breeders' Associations.

#### FACTORS DETERMINING THE YIELD OF WHEAT.

E. J. Russell, D. Sc. of the Rothamsted Ex-Cattle shows began about the m'ddle of last cen- dicating that the processes going on in the soil ture. At first all breeds and crosses competed were producing plant food in sufficient quantity were producing plant food in sumchent quanter, each year to support a crop of those dimensions. This subject was discussed in papers read by In addition to the usual fertilizing elements in the soil, nitrogen, phosphoric acid and potash, way, N. S. A. Prof. Shutt summarized results

### MILLING PROPERTIES OF CERTAIN CANADIAN WHEATS

samples of wheat. Tables given showed that winter wheat weighed heavier per kernel and per in the case of cows the mink production (qualities) withter wheat weighed heavier per kerner and per bushel, but contained a lower percentage of pro-bushel, but contained a lower percentage of pro-tein, though it gave a higher percentage of flower. Winter wheat averaged 10.65 per cent. protein, as compared with 11.59 for spring wheat, and gave an average of 54.1 per cent. flour, as compared with The herds are entered for a competition which is The herds are entered for a competition which is

Following the proceedings summarized in our of fat, weighs the food given daily to each cow, discussion of the scientific aspects of the question,

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grant of 141, per union yearly. The information with regard to the yield and 400 tons pass through the crop in the production than 3.6 and 4.3 inches of water respectively, and there must be left in the soil at harvest enough water for growth not to have been stopped. One soil may be physiologically dry and yet contain more moisture than another soil which is actualbreeders to take up this work, much the better utilisation of the breeding head, carried on at Rothamsted since 1843, were transgement of the soil grains and the quantity of animals from these superior herds for the improvement of the cattle breeding in general. For the first purpose cattle breeders' associations and control unions cattle breeders' associations and control unions bere belied in the other direction.

MANAGEMENT OF PRAIRIE SOILS

together; from the starter breeds. In addition to the usual fertilizing elements in Prof. F. J. Al-classes for the different breeds. In addition to the usual fertilizing elements in Prof. F. J. Shutt, Ottawa, and Prof. F. J. Al-About the year 1870 the classes for single cows the soil, nitrogen, phosphoric acid and potash, were discontinued and prizes offered instead for Prof. Russell discussed briefly the influence of rain-distinguishing characteristic of which was their birth course bred by the exhibitor, a fea- fall and temperature. high organic matter and nitrogen content. He submitted, also, figures showing the excess of moisture stored in fields by summer-fallowing, but was of the opinion that in the west the practice of summer-fallowing must be replaced by a system of crop rotation, which would include the returning of the land to sod or a leguminous crop every third or fourth year. The bare fallow operated to dissipate the humus which meant that the nitrogen content of the soil was reduced. In his opinion twice as much loss of soil nitrogen was due to

summer-fallowing as to cropping. Prof. Alway was of the opinion that nitrogen was not yet the limiting factor in crop production in the West, and quoted from data compiled experimental results at Indian Head to show that the application of sodium nitrate had resulted in no increase in the yield of wheat. The yield after Prof. R. Harcourt, Chemist, O. A. C., Guelph, leguminous crops plowed under has been less than on fallows, the difference in yield seeming to de-pend upon the extent of growth and the lateness of plowing of the legumes, and accordingly upon the amount of water removed from the soil by the legumes

# PROBLEMS OF THE GRAIN INDUSTRY

Geo. H. Harcourt, Deputy Minister of Agriculture for Alberta, and W. B. Lanigan, freight traffic manager of the C. P. R., discussed some transportation aspects of the grain industry before the engineering section of the association. Mr. Harcourt sketched the rapid development of grain-growing in Western Canada since the Selkirk settlers first began producing grain for market, handle the grain produced in the prairie provinces when the crop grown is many times larger than at the present time. He gave the following statement showing the increase in number and c nacity

ty ran's univergrounds are re fence and rt time. last week in with classes staff consists ncipal W. C. ttics, G. H. economics. and French, r of classics, tural course John Brack-A. R. Greig, meering and tomology.

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petition is published.

on the farms as to the state of health.

Difficulty in keeping accounts of feed and yield of from plump as compared with shrunken seed. individual cows led to the formation of the Con-trol Union of Cow-testing Associations. The ob-ject of these is to strike a balance sheet for each trol Union of Cow-testing Associations. The object of these is to strike a balance sheet for each individual cow for the guidance of the daily feed-individual cow for the guidance of the daily feed-ing, for the weeding out of those cows which it struction of weeds in cereal crops by means of turn freight from the East. the sprays to keep, and for the selection of sprays. As the subject of weed spraying was the onter of the onter of the district appoint is throughly discussed by Prof. Bolley in the issue fourteen or twenty days visits each herd, weighs as the paper read before the British scientists of nearly a million dollars. A library valued at the milk of each cow estimates the percentage covered the same ground, with perhaps a fuller is a guarter of a million was destroved.

the result that the demand is increased for breed- Guelph, summarized his investigations of the in-ing animals from these herds at enhanced prices. fluence of seed. Prof. Zavitz believes that the era A full report of the result of the two years' com- of investigation work in seeds is only beginning, and the next ten years will witness more work un-

The cattle breeders' association have for their dertaken than during the whole of last century. principal aim the purchase of a good bull. The At the Ontario Agricultural College, plant breed-first association was formed in 1883. From the ing is beginning to receive a good deal of atten-first these associations paid attention also to the tion, the speaker stating that in 1909 54,063 hy-cows and to the health of the herds; they required brid plants were grown, and 76 separate plot tests also accounts kept of the feeding and the yield of made with hybrids from previous years' breeding. the individual cows. From 1887 the State gave The results of twelve separate tests made at the a yearly grant which helped the movement on. Ontario Agricultural College with winter wheat There are now 1,300 cattle breeders' associations show an average increase in yield per acre of 6.5 with 1,500 bulls, the State giving 81. per annum bushels from large as compared with small seed per bull on condition that the bulls have taken of 7.8 bushels from plump as compared with prizes, that the committee select the best cows of shrunken seed; and of 35.6 from sound as comthe members to be served by the bull, and that the pared with broken seed; and in sixteen separate commistee at least once a year inspect the herds tests with spring wheat of 3.7 bushels from large as compared with small seed; and of 5 bushels

## WEED SPRAYING

the milk of each cow, estimates the percentage covered the same ground, with perhaps a fuller a quarter of a million was destroyed.

of the elevators in the West during the past ten

Year.		Number	Canacity
1900		421	12.759.352
1901		538	15,449,000
1902		734	21,226, .00
1903		911	27,214,000
1904		. 973	28,491,630
1905		1055	31,560,700
1907		1314	39,724,000
1908		1457	43.037.400
1906		1228	38,142,700
May	1, 1909	. 1490	44,000,000

Since May 1 it is estimated that 200 more elevators have been built, which bring the internal elevator capacity up to approximately 50,000,000 The terminal storage at the head of the lakes is about 23,000,000 bushels.

Mr. Lanigan gave a detailed description of the manner in which wheat is handled from the time it leaves the farm until it passes into the hold of an ocean freighter, and discussed the difficulties that a railroad has to face in moving the wheat