

A male and female might be mated that were of the same size and form, but their ancestors of all imaginable shapes and sizes; the calf might take its form from a granddam on the one side, and its size and gayety or style from a grandsire on the other, and be a wonder; but, after all, only an accident. Such an animal cannot breed on, thus we can account for many of the best individuals being absolute failures in the herd.

A male or female of abnormal size, such as are often found in great winners, could not possibly be descended from a long line of ancestors such as themselves, so that they could not be expected to produce their own kind; they are accidents in breeding and their work will be haphazard and full of chance.

Breeding on the advanced methods of the present day has produced the uniform classes of our great exhibitions, and it has produced our uniform herds; not in a short time, but after many years of perseverance with our ideal clearly before us. The animals composing those classes and our herds, having been bred in a majority of cases from such as themselves, can be relied on to reproduce, and while we may not always produce a show animal, we can confidently depend on never producing a really bad one. While it is unnecessary to deny that many of the old-time animals were grand, it would be impossible to deny that a great proportion of the pure-bred cattle were no credit to the name, and if the latter were bred without intention, the former must to a great extent have been accidental as well.

Let us, then, take encouragement from the fact that the general excellence of our present day herds is far beyond that of those that were in existence during what is termed the palmy days of the cattle trade, and that if we have made such improvement in the past, it is within our power to go on improving.

Let each and every one here lend their assistance to that end; for, like the attempts to reach the North Pole, the nearer we come to our ideal the greater the difficulties to overcome; but unlike them in this: every step forward is a material benefit to mankind.

**Weight of Smithfield Club Prize Sheep.**

WM. WALLACE, NIVERVILLE, MAN.

An analysis of the weights of the prize-winning sheep of the different breeds at the recent Smithfield Club Show furnishes an interesting and instructive study to sheep-breeders and feeders, as well as to those proposing to embark in that industry. The show was an excellent one, both as to numbers and merit, considering that stock was excluded from several districts which were then scheduled on account of foot and mouth disease. The sheep were exhibited in pens of three, each breed being represented by three classes—Weddors, Ewes and Lambs. The weddors were shearlings, with the exception of the Cheviot and Mountain breeds, in which there was no restriction as to age. In the following abstract the average live weight of each sheep in each first prize pen is given in pounds, fractions of a pound being omitted:

BREED.	WEDDORS.	EWES.	LAMBS.	REMARKS.
Leicester	278	291	162	2nd prize lambs, 171 lbs.
Cotswold	315	318	198	" weddors, 348 lbs.
Lincoln	322	341	200	" weddors, 2 yrs., 7 mos.
Cheviots	233	221	none	2nd p. weddors, 209 lbs.
Mountain	185	173	113	2nd p. weddors, 221 lbs.; 2nd p. ewes, 236 lbs.
Southdown	211	212	166	2nd p. weddors, 252 lbs.; 3rd p. lambs, 176 lbs.
Shropshire	236	252	152	2nd p. weddors, 203 lbs.; 2nd p. lambs, 220 lbs.
Oxfordshire	294	303	191	2nd p. lambs, 203 lbs.
Hampshire	280	284	202	2nd p. lambs, 217 lbs.
Suffolks	293	266	217	
Dorsets	276	282	201	
Cross, Oxf.-Shrop.	304			1st p. cross weddors.
Cross, Hamp.-Cots.	298			2nd p.
Cross, Bordr.-Lestr.-Chevt.	282			Reserve "
Cross, Oxf.-Hamp.			219	1st p. cross lambs.

For Mountain cross-bred weddors the first and second prizes were gained by Border-Leicester-Cheviots, the reserve being a pen of Border-Leicester-Black-faced crosses. Silver cups, value \$60, were given for the best pen of each breed—the wedder, ewe and lamb classes competing against each other. In every case these cups were awarded to the wedder class, except the Hampshires, in which the lambs carried the breed championship. These lambs at 10½ months weighed 202 lbs., being the heaviest first prize lambs among the pure-breds; and it is to be noted that the 2nd and 3rd prize pens were considerably heavier than the 1st, showing that the Hampshires, as represented at this show, take the premier place among the pure breeds for early maturity and weight combined. Great as these weights were, however, they were topped by the cross Oxford Hampshire 1st prize lambs, which attained the phenomenal weight of 219½ lbs. In addition to the breed and class prizes, a champion plate of \$100 was awarded to the best pen of Long-wooled sheep or lambs, embracing the first five breeds in the above list. This was gained by the Leicester weddors, twenty months old, the reserve being the Cotswold weddors, twenty-one months. A champion plate of \$150 to the best pen of Short-wools, comprising the remainder of the list, was, after an exciting contest, awarded to J. J. Colman, M. P., for the Southdown weddors, twenty-one months old, the reserve being the Shropshire weddors, twenty-four months, the property of Mr. A. S. Berry. The Southdowns, although the lightest of all the breeds, except Mountain sheep, seem to hold their ground and even to gain in favor. Their mutton in the London markets is generally about three cents per pound higher than the heavier breeds. The Lincolns, on the other hand, may claim

to attain the greatest weight. The second prize pen of Lincoln weddors were the heaviest sheep in the show, weighing 348 lbs. The prizes for the mountain breeds were gained by Scotch Black-faces—the three prize-winning pens of weddors scaling from 188 to 209 lbs., at nineteen to twenty months old: a very good showing for this picturesque mountain sheep, which is coming into fashion. We were glad to see an illustration of a fine specimen of this breed in the ADVOCATE (second issue) for January. It will be observed that mere weight was not the primary consideration in awarding the prizes, and that quality, early maturity, uniformity of type, and an exhibition of the true characteristics of the breed, had all their due weight with the judges.

**FARM.**

**Good Roads Convention.**

The second annual Convention of the Good Roads Association was held in Toronto, Feb. 7th and 8th. Although this Society is only one year old, it has awakened sufficient interest to draw from different parts of this Province about 150 delegates. The work of this Association has been, so far, to collect and distribute information. Speakers were sent out on almost every Farmers' Institute delegation in January. The need for much better roads than now exists in many parts is keenly felt, and all that seems necessary is to propose a reasonable scheme whereby the people can better the condition of the public highways without too great an outlay of money.

At the opening session, among those present were His Honor Lieut.-Governor Kirkpatrick and the Hon. John Dryden, the former of whom referred to the farmers as the most influential class in the Province. Anything that benefits the farmer benefits the nation. Farmers living in a country with the best roads have a great advantage over those where only poor roads are to be found, because the time, labor and injury to products taken to market or depot over improved highways are at a minimum. In referring to the statute labor system, His Honor stated that quite half the time spent on roadmaking is frequently wasted, and that if paid overseers were engaged the money now spent would reach the utmost capacity. The speaker also said that nearly every county had contributed large bonuses to railways, some of which reached from \$150,000 to \$200,000, and as much, or more, benefit would result from a similar amount spent on roads.

Hon. John Dryden stated that he has been running too long in the old rut, "working for the Queen," as it is called, which means, in too many cases, to spend as little muscle as possible. There is much need of better work than has formerly been done. In some sections cobblestones as large as a man's head are drawn onto the road and left rolling about, which preserve the road by making it impassable. Broad-tired waggons would help our roads wonderfully. In the speaker's opinion, the immediate need seems to be that of better direction of our present statute labor system, which will not be abolished for some time yet. It is all very well to talk of making a law, but the proper time is not until the people want it. What we want now is to have a permanent overseer who understands his business, and abandon this abominable system of passing the job around, so that Farmer Jones can fix the road opposite his place this year according to his notion, and Farmer Smith the next according to what he thinks proper.

Mr. A. W. Campbell, City Engineer, St. Thomas, read an interesting and exhaustive paper, bearing on all the phases of the road question.

**Delegation Speakers.**—A number of Good Roads delegates to Farmers' Institutes were called upon to give testimony of the feeling throughout the country. Almost every man stated, in substance, that the question of road improvement was discussed with great interest. Nearly every one is in favor of a change in the appointment of pathmasters, and statute labor as now carried out. A uniform method of roadmaking is asked for, and the present system cannot give that.

A number of practical, pointed five-minute addresses were given by delegates from various parts of the Province, who brought out the following: The first thing necessary in making a good road is to have proper drainage. Some favored a drain down the centre of the road; others on each side of track. Open side ditches were also thought necessary by some, while others advocated covered drains. The kind of soil in which the road is made must govern the draining question. Almost every man spoke in favor of road machines, as they put up a splendid grade quickly and uniformly.

Among the speakers was Mr. McEwing, ex-President of C. F. Institute, who does not favor borrowing money from Government to build roads, which was recommended in Mr. Campbell's paper. He said, "The good Lord helps those who help themselves." It is not well to shoulder a debt at all when it can be avoided. Although the statute labor system is not good, let us be sure we have something better before we give it up. "Our climate," continued Mr. McEwing, "will not permit the keeping of our roads in as high condition as those of many other countries. The first thing to do is to work up public sentiment."

**Road Commissioners** were advocated by most of the speakers, some of whom were in favor of electing them in the same manner as municipal officers. It was generally admitted, however, that a good man should retain the position year after

year. In E. Northumberland a road commissioner has been employed for the last four years, to the general satisfaction of the ratepayers, although the idea met considerable opposition when first introduced. The commissioner is paid by the day, and is employed about six months of the year. His duty is to oversee all road work other than statute labor, and also to be ready to consult with and advise the regularly appointed pathmasters, so that the work done in the entire riding is as uniform as possible.

Mr. A. H. Pettit, in speaking, advised going slowly, avoiding any scheme that will require a lot of money in the outset. Mr. Murray Pettit advocated beautifying roadsides, because of its refining influence and its tendency to enhance land value.

At the closing session, resolutions were passed favoring the continuation of the Association's work of gathering and circulating practical information, and also that they demand legislation to revise the laws relating to toll-gates, and that the members of the Association organize local associations in their respective districts.

It was also resolved that there be a Legislative Committee appointed to look after the improvement of our road laws. The changes recommended were: first, the reducing of the number of pathmasters; second, their selection through merit and knowledge of roadmaking and repairing; third, that they be given power to call out statute labor when needed, and that they be paid for all work over and above that which they are liable for; fourth, that a competent person be appointed as road overseer, who shall keep an eye on all work done and report same annually; fifth, that his remuneration be fixed by municipality. This Committee is expected to investigate the subject of legislation through which the use of broad tires can be encouraged and narrow ones discouraged. Among other changes asked is that municipalities be given power to ask a vote on the abolition of statute labor in their territory, and that plans be formulated to divide the roads into county or township roads.

It was also resolved that drainage laws be carried into effect in road building.

It was also resolved that circulars be sent out by this Association to Municipal Councils, Agricultural Associations of various kinds, Boards of Trade, etc., asking co-operation, and road reform data.

**Officers.**—President, A. Pattullo, Woodstock; First Vice-President, J. F. Bear, Black Creek; Second Vice-President, A. W. Campbell, St. Thomas; Sec.-Treas., K. W. McKay, St. Thomas. Executive Committee—A. Mahon, Aberfoyle; J. Sheppard, Queenston; Alan Macdougall, C. E., Toronto; J. C. Judd, Morton; M. Kennedy (Mayor), Owen Sound; W. F. Campbell, Brantford; J. H. Wooley, Simcoe; Robt. Jelly, Jellyby, and E. Kidd, N. Gower.

**The Constituents of Corn.**

In the account of the convention of the Ontario Creameries Association, at Chesley, given in the February 1st ADVOCATE, your correspondent, commenting on my short address on the "Constituents of Corn," attributed to me the remarks made by Mr. John Gould on that subject. Very briefly, the salient points that I made on that occasion were as follows:—Carefully conducted field and laboratory experiments at the Central Experimental Farm, Ottawa, with several varieties of fodder corn, had shown:

- (1.) That the corn plant increases in value by the storing up of digestible dry matter until the kernel begins to glaze. If left uncut after this period, the fibre is rendered less digestible, and the percentage of albuminoids somewhat lessened, and consequently the food value is lowered.
- (2.) The dry matter in different varieties of fodder corn, taken at the same stage of growth, is very similar in composition.
- (3.) That it is during the early part of the season that the corn plant takes from the soil the larger portion of the mineral constituents it requires, and also that the albuminoids, whose chief constituent is nitrogen, are also principally formed in the tissues while the plant is yet young.

The following table gives the data upon which I base these conclusions:—

STAGE OF GROWTH.	Water Per Cent.	Dry Matter Per Cent.	Yield per Acre.		Dry Matter.		
			Tons.	Lbs.	Tons.	Lbs.	
Tasseling	85.73	14.27	22	1329	285	3	468
Silking	83.83	16.17	24	52	323	3	1770
Early Milk	80.05	19.95	22	1806	399	4	1138
Late Milk	77.86	22.14	21	759	443	4	1467
Glazing	73.82	26.18	21	1154	524	5	1298

A consideration of these figures makes it quite clear that there is a gain in nutritive value to be obtained by allowing the corn plant to grow till the kernel glazes.

The above data make quite evident the tremendous increase in the food material that takes place in the corn between the tasseling and glazing conditions. The varieties used in these experiments were Longfellow, Pearce's Prolific, Thoroughbred White Flint, and Red Cob Ensilage. Of these, the two first named varieties only could be recommended for ensilage purposes in this district.

In ordinary seasons, the cob on the Longfellow, and the Pearce's Prolific, will glaze before there is much danger of frost. FRANK T. SHUTT, Chief Chemist, Ottawa

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