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The Selection of Pigs for Breeding Stock

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The rapid expansion of the export bacon trade during recent years has served to focus attention not only on the quality of the article being produced in this country but also on the efficiency of its production. Interest in carcase quality has been stimulated by means of bacon carcase competitions and by the carcase evaluation scheme which is carried out in conjunction with compulsory grading. By means of this latter a vendor receives a critical account of the carcase quality of his bacon pigs.

Efficiency of production has received even greater attention and in some districts litter recording has been established for some ten years.

It is not the purpose of this bulletin to detail the results which have been obtained from the work carried out on carcase evaluation or on production efficiency but rather to stress the opportunity which presents itself to commercial breeders to select their breeding stock from strains which have proved themselves when measured up for production efficiency and carcase quality.

The commercial breeder who is utilising purebred or cross-bred pigs for the purpose of pork or bacon production has to rely on the pedigree breeder for replacements of breeding stock. It is in the selection of this stock that full use can be made of the results obtained from information gathered during recent years.

In the past the selection of breeding stock has been influenced by show ring performance with the result that animals preferred by the judges of the day became premium-animals from the point of view of progeny sales, irrespective of their ability as producers. It is not necessary here to labour the point of the doubtful value of show ring performance but sufficient to bear in mind that the awards are based on the personal preference of individuals, and not on the measured ability of the animal to beget progeny which will produce up to accepted commercial standards.

In view of the information which is now available, such a method of selection has nothing to recommend it and the fact that it is still largely used indicates a lack of appreciation of fundamentals on the part of both purebred and commercial breeders. If breeders continue to pursue such a course of selection, then the 2d per carcase levy which is collected on all pigs slaughtered is wasted and the instructional and investigational work which it finances becomes of only academic interest in that it provides excellent material for statistical investigators to continue to tell us just how far short of English market standards our produce falls.

If full use is made of the information already available a rapid improvement can be made both in the quality of the article we are producing and in the efficiency of its production. This is so because the information collected shows which are the desirable and which are the undesirable strains from the practical point of view.

The Selection of Young Breeding Stock

A commercial breeder in search of young breeding sows or boars, generally finds no difficulty in obtaining quotes from pedigree breeders of the various breeds. There is no need to worry as to which is the best breed to adopt as records show that there are desirable strains—and undesirable—in all of our breeds so the purchaser is safe in going after his personal preference for no other reason than that he has a sentimental leaning towards the par-

ticular breed. But having selected the breed his next job is to give close study to the available records. Where such records consist only of show ring performances of the individuals themselves or their ancestors the pigs should be passed over and the search continued for animals which have some information concerning their real capabilities.

Where litter records are available the final choice will depend on the interpretation of the information contained in the records. The litter record contains a full record of the number of pigs born and the number of pigs reared in each litter. The number of pigs born in each litter is a direct measure of prolificacy. Records show that the average sow produces a litter of nine piglets so that a sow which consistently produces this number of piglets can be classed as an average sow. If she rises above this figure her desirability as a matron increases but if she falls short of it, then compared with the average of her kind, she lacks prolificacy.

The relationship between the number of pigs born and the number of pigs weaned gives some indication of the husbandry of the breeder and of the mothering ability of the sow. The mortality during this stage may rise as high as 20 per cent of the litter with most of the loss taking place during the 3rd or 4th day after farrowing. Such high figures may be due to carelessness or excitement on the part of the sow or merely to lack of interest and inferior husbandry on the part of the breeder.

In maiden litters too much importance should not be attached to litter mortality but in older sows it should be closely investigated to determine whether the fault is with the sow or with the owner.

The next information of importance in the litter record is the litter weight at 21 days. This is an indirect measure of the milking capacity of the sow and the ability of the piglets to utilise it as until this age they are dependent on the milk supply of the sow for their live weight gains. An average sow will get her piglets to about 13lbs at this age but considerably heavier weights could be quoted.

The next weighing at 56 days is an indication of the quality of the husbandry of the breeder, and, while there is no real advantage in record-breaking litters, it is essential that a standard of 40lbs per piglet should be maintained.

If this is done then a litter weight of 300lbs and more should be attained.

Thus far the selection of the potential breeding sow has been considered only from the viewpoint, as indicated by her ancestry, of her probable capabilities of being a regular and prolific breeder with a highly developed milking capacity. In the absence of any other information this alone is a valuable basis for selection. To be complete, however, it must be accompanied by further information as to the value of the strain as a producer of high quality carcases.

The only means of obtaining this information is for the pedigree breeder to submit regularly his pigs to carcase tests by taking some of each litter to bacon weight and having the carcases measured up "on the hooks." Under the schemes at present in operation no difficulty should be encountered in obtaining the desired information.

There are at present two methods whereby the breeder can obtain all the information he requires regarding carcase quality. He may market his baconers in the ordinary way, but prior to their removal from the farm each pig is tatooed by the district Pig Supervisor. This ensures correct identification of the pigs on the hooks and enables the breeder to obtain the information he requires from the official graders.

The second method is similar to the above, its main points of difference being that the pigs are under official test from birth to the carcase stage. Standards are set for such things as Prolificacy, Litter Weights, Daily Carcase Weight Gains, and Carcase Measurements. If the litter performance is better than the standards set and if the selected individuals are above the standard for carcase quality then the sow is eligible to have her name entered as a Performance Record Sow. Such a sow should be regarded as a premium animal from the point of view of producing high quality breeding stock.

Where carcase measurements are available particular importance should be paid to those measurements which are of prime importance in our export trade.

Of these measurements length of side should receive critical attention. In the past we have produced a type of pig too short for the market we are endeavouring to supply. As length is the result of inheritance rather than husbandry those strains which show desirable length should receive further consideration in the

selection of the potential breeding sow. Standards used in New Zealand at present suggest that the carcase length from rib to "H" bone should range from 33 inches for a 130lb carcase to 34 inches for a 170lb carcase.

The relative amounts of fat and lean are largely the result of the husbandry to which the animal has been subjected, but information is required as to the presence or absence of the excessive fatness of the fore-end which has characterised the heavy shouldered pigs of the past.

Our considerations so far have dealt with the selection of a strain or strains which have measured up to accepted standards for litter performance and carcase quality. With desirable strains available to select from, we can now proceed to sort out individual pigs from those offered.

Our first job will be to find those sows which will be capable of rearing big litters, that is, those which have a sufficient number of well spaced, useful teats. As a prolific sow rears ten piglets, it should be sufficient if our standard is set at twelve teats. The elimination process can be carried a step further by selecting the apparently longer-bodied individuals, remembering that although our carcase tests have been satisfactory, there is considerable variation likely to exist in the litters.

From these selected sows we can further select those which show a desirable lightness of shoulder, fullness of ham, and shortness of leg.

Finally if the sow is intended to breed purebred pigs, we can give attention to such unimportant details as colour and the shape of the ears. That we have selected a sow which will be a profitable breeder, time alone can show, but we have made use of information which gives us a guarantee as to the measured ability of her close relatives and the chances are that she in her turn will measure up to present-day accepted standards.

We can summarise our method of selection for purchase as follows:—

1. Demand access to litter record and carcase quality results.

2. Select strains which have given satisfactory results in the above tests.

3. Select individuals from within the desirable strains using as the basis of selection spacing and number of teats, length of body, lightness of shoulder, fullness of ham, and shortness of leg.

4. If necessary give consideration to those characters which are described as being breed characteristics but which have no commercial value.

Copies of this bulletin may be obtained from the secretary, Canterbury Chamber of Commerce, P.O. Box 187, Christchurch.