for barley meal in the main pig-producing districts. Five small feeds a day for young pigs are desirable on bulky dairy by-products to get optimum growth and yet avoid a pot-bellied appearance.

This applies with even greater force to whey feeding. Whey must be supplemented with meat meal at the rate of ½lb. per pig per day to secure optimum body growth. The animal being reared for breeding purposes will benefit from a slightly-higher rate of protein feeding than this and when sufficient meat meal is available it can be allowed 1lb. per day from 6 months of age until maturity.

During this later stage a greater proportion of the total food required can be obtained from grazing. At a year old a boar can obtain about half the food required from grass if this is of a highly-nutritious character. Hand feeding at this stage should comprise 3 gallons of skimmed milk and 1lb. of cereal meal or 5 gallons of whey and 1lb. of meat meal. When grazing is deficient the ration must be built up with home-grown crops or bought meals on a food unit basis, and consideration given, particularly in winter, when the milk proteins are not available, to the necessity to keep up the protein level of feeding by means of meat meal, pea meal, or other satisfactory protein-rich feeds.

A good guide to feeding is to aim at giving by hand 1 food unit per 100lb. liveweight when good grazing is available and at least double this when no grazing value is being obtained. Home-grown crops, of course, form the cheapest basis of providing the necessary bulk, but with these up to 1lb. of meat meal and cereal meal, according to price and the condition the animal is maintaining, should be used.

When the pig is mature ¾ food unit per 100lb. liveweight, in addition to grazing, should suffice. However, in these recommendations, as in all feeding guides, allowance has to be made for the individuality of the animal. Thus it is left to the art of the feeder to ensure good growth and development, to give full expression to the inherent constitution of the animal, and on the other hand to ensure that feeding is not so forced or unbalanced as to produce overfatness, a pot-bellied appearance, or weakened legs or feet.

Detusking

A surgical operation for removal of the tusks at about 1 year old may be performed, but this is the more expensive, if more permanent, way of detusking, as it requires the administration of an anaesthetic and the services of a veterinarian.

A simpler and quite effective way of detusking is to rope the boar securely to a post and sever the tusks by means of bolt-cutters, a wood chisel used against a block of wood placed through the mouth to form a resistance on the inside edge of the tusk, or a hacksaw.

Where the boar runs with the dry sows it is particularly necessary to detusk, though it is an insurance against accidents at all times. When a boar feeds with sows the sows are frequently ripped by his tusks and occasionally this may have serious consequences with in-pig sows.

Service Management

The act of mating in the pig normally extends over about 10 minutes and no disturbance should be permitted during mating. If more than one boar is kept, the boar required should be taken out into a separate service pen or paddock, and the sow to be mated, after she has been showing signs of heat for 24 hours or so, should be turned in with him and left until it is certain that a satisfactory service has taken place. After a further 24 hours a second service should be given. Where only one boar is kept it is satisfactory, of course, to turn in the sow at the appropriate times to the boar pen. She should be taken out after each service, and if the practice is to run the dry sows with the boar, finally turned out in this paddock only after the heat period has passed.

In general, two services at 24-hour intervals, the first at 24 to 36 hours after the commencement of heat, give the best results measured by fertilisation of the greatest number of eggs. However, if the breeding season is concentrated so that a number of sows require service from the same boar in a limited period, say, more than three sows to be mated to the same boar in a week, it is preferable to limit services to one per sow. This should then be delayed until the sow has been on heat at least 36 hours.

Service Crates

Though they are not commonly used in New Zealand except in breeders' establishments, service crates enable services to be better controlled and permit the use of aged boars on young sows and vice versa.

DAIRY PRODUCE GRADED FOR EXPORT

THE following figures showing quantities of dairy produce graded for export during July and for the 12 months ended July 31, 1949, with comparative figures for the same month and 12-monthly period of last year, have been compiled by the Dairy Division of the Department of Agriculture from figures supplied by divisional officers at the various grading ports:—

BUTTER—

Period	Creamery	Whey (Tons)	Total (Tons)	Percentage inc. or dec.	Total in store at end of mth. (Tons)
July, 1949	1,494	8	1,502	+35.927	7,220
July, 1948	1,100	5	1,105	—	5,647
Increase or decrease	+394	+3	+397	—	+1,573
For 12 months ended 31/7/49	143,676	2,641	146,317	+11.081	—
For 12 months ended 31/7/48	129,382	2,339	131,721	—	—
Increase or decrease	+14,294	+302	+14,596	—	—

CHEESE—

Period	White	Coloured (Tons)	Total (Tons)	Percentage inc. or dec.	Total in store at end of mth. (Tons)
July, 1949	201	7	208	—11.489	5,457
July, 1948	235	—	235	—	1,421
Increase or decrease	—34	+7	—27	—	+4,036
For 12 months ended 31/7/49	89,639	5,170	94,809	+14.408	—
For 12 months ended 31/7/48	82,869	—	82,869	—	—
Increase or decrease	+6,770	+5,170	+11,940	—	—

If these figures are converted into butterfat equivalent, there is an increase of 11.826 per cent. in butterfat graded for the 12 months as compared with the corresponding period of the preceding season. It should be noted that the above figures refer only to butter and cheese graded for export, and that owing to diversions which may take place from time to time, they are not necessarily a true indication of production trends.

"Commercial Glasshouse Construction in Canterbury"

IN the article "Commercial Glasshouse Construction in Canterbury," which appeared on page 597 of the June issue an error occurred in the tables on page 599, which set out the number of sash bars required for three different-sized glasshouses. In every case the number of sash bars given in the tables is one short of the correct number. The correct figures are set out below.

100ft. x 30ft. Glasshouse

16in. glass: 68 sash bars + 2 end bars = 99ft. 6½in. long, or 69 sash bars + 2 end bars = 100ft. 11½in. long. 20 sash bars + 2 corner posts = 30ft. 6½in. wide.

18in. glass: 61 sash bars + 2 end bars = 99ft. 9½in. long, or 62 sash bars + 2 end bars = 101ft. 4½in. long. 18 sash bars + 2 corner posts = 30ft. 9¾in. wide.

20in. glass: 55 sash bars + 2 end bars = 99ft. 6in. long, or 56 sash bars + 2 end bars = 101ft. 3½in. long. 16 sash bars + 2 corner posts = 30ft. 5½in. wide.

100ft. x 15ft. Glasshouse

The numbers of sash bars and the lengths of the houses are the same as for 100ft. x 30ft. houses, but the exact widths are:—

16in. glass: 10 sash bars + 2 corner posts = 16ft. 1¾in., or 9 sash bars + 2 corner posts = 14ft. 8½in.

18in. glass: 9 sash bars + 2 corner posts = 16ft. 4½in., or 8 sash bars + 2 corner posts = 14ft. 9½in.

20in. glass: 8 sash bars + 2 corner posts = 16ft. 3½in., or 7 sash bars + 2 corner posts = 14ft. 6in.

50ft. x 15ft. Glasshouse

Widths are the same as for 100ft. x 15ft. houses, and the exact lengths and numbers of sash bars required are:—

16in. glass: 34 sash bars + 2 end bars = 50ft. 7¾in.

18in. glass: 30 sash bars + 2 end bars = 50ft. 0¾in.

20in. glass: 27 sash bars + 2 end bars = 49ft. 11in.