

agriculture & rural development Department: agriculture

PROVINCE OF KWAZULU-NATAL

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DAIRYING IN KWAZULU-NATAL

Breeds of Dairy Cattle

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INTRODUCTION

In South Africa, at least six breeds of cattle are recognized as being "dairy breeds". These are Holstein-Friesland, Jersey, Guernsey, Ayrshire, Swiss (Brown- and Dairy-), and Dairy Shorthorn. Other breeds, such as Simmentaler, Red Poll, Dexter and South Devon are occasionally seen in the milking parlour. Data from the National Dairy Cattle Performance and Progeny Testing Scheme concerning the major dairy breeds are given in Table 1. From this it is clear that the Holstein-Friesland is by far the most popular, followed by the Jersey. Ayrshires and Guernseys make up less than 10% of the dairy cows included in the milk recording scheme, all other breeds comprise less than 1%. Table 2 reviews the changes in milk production and composition of milk-recorded cows over a 15 year period. There were significant changes in both the quantity of milk produced and the butterfat content. The figures reflected in these two tables are derived from herds belonging to the National Milk Recording and Progeny Testing Scheme. These herds have been shown to be better managed than those outside the scheme, with their performance per lactation being 50 % greater than that of the national herd. It was estimated, that, in 1991, approximately 22,2 % of dairy cows in the country were in herds participating in the National Milk Recording Scheme.

Table 1. Comparison of number of cows, production and fertility in the main dairybreeds in South Africa

Breed	Reg/ grade	No. cows	% cows	Milk	FCM	BF %	Protein %	AFC	ICP
Holstein-	Reg.	53955	39,4	6426	3932	3,48	3,15	28	406
Friesland	Grade	49739	36,4	5422	5022	3,50	3,17	30	406
Jersey	Reg.	15327	11,2	4468	4771	4,43	3,73	25	400
	Grade	9783	7,2	3840	4026	4,29	3,67	28	397
Ayrshire	Reg.	2835	2,1	5260	3009	3,66	3,34	29	419
	Grade	1360	1,1	4304	4287	3,66	3,28	32	410

	Reg. Grade	751 1590	0,5 1,2	4965 4247	5208 4339	4,31 4,14	3,54 3,48	28 30	439 401
Guernsey	-	1176	0,9	4839	4623	3,69	3,30	29	388
Crossbreeds		136716	100						
Total									

No. cows	:	Number of completed lactation's in 1991/92.
Milk	:	kg milk per 300 day official lactation.
FCM	:	4% fat corrected yield (kg).
BF	:	Butterfat.
AFC	:	Mean age at first calving, months.
ICP	:	Average intercalving period, days.

Source : Data as adapted from the National Dairy Cattle Performance and Progeny Testing Scheme.

Table 2. Average milk yields of the main dairy breeds in the RSA for 1975/76 (A), 1984/85 (B) and 1990/91 (C)

Breed	Reg/ Grade	Milk (kg)			But	tterfat	(%)	Butterfat (kg)		
		Α	В	С	Α	В	С	Α	В	С
Holstein-	Reg.	4613	5256	6339	3,66	3,55	3,47	169	187	220
Friesland	Grade	4160	4676	5393	3,50	3,55	3,46	146	166	187
Jersey	Reg.	3410	4039	4457	4,86	4,53	4,42	166	183	197
	Grade	3128	3467	3887	4,59	4,45	4,29	144	154	167
Avrshire	Reg.	4017	4662	5191	3,71	3,66	3,64	149	171	189
	Grade	3439	4147	4700	3,67	3,63	3,65	126	151	172
/ tyronine	Reg.	3933	4272	4643	4,62	4,40	4,24	182	188	197
	Grade	3591	3877	4246	4,23	4,11	4,12	152	159	175

Guernsey					

Source : Adapted from the National Dairy Cattle Performance and Progeny Testing Scheme.

THE HOLSTEIN-FRIESLAND

This well-known black and white breed originated in the northern parts of what is today known as the Netherlands. Over the years a number of distinctive strains have evolved within the breed, including the Holstein, the British Friesian and the Dutch type. Some authorities maintain that it is possible to discern a "South African Friesian". Although there are differences between the strains, these are often difficult to discern.

Originally these cattle were either black and white, or red and white. The black and whites were selected for, to the extent that red animals were excluded from registration. Today the red factor is again acceptable.

The Friesland Cattle Breeder's Association of South Africa was formed in 1912, although the first Frieslands were registered in 1906 in the South African Stud Book. The society recently changed its name to the S A Holstein-Friesland Cattle Breeders' Association of South Africa, in recognition of the strong American Holstein influence in the local breed.

The Holstein-Friesland is a large-framed animal, the mature cow mass varying from 550 to 650 kg. Bulls often exceed 1000 kg. Because they are fleshy animals, the Dutch types of Holstein-Frieslands are often classified as dual purpose animals rather than as dairy cattle. Although the meat lacks quality, the additional income from the sale of cull cows makes an important contribution to the total income from a dairy enterprise. The economics of fattening oxen is questionable, but in times of meat shortage, and when feeding costs allow, the growing out of steers becomes feasible.

In the past the Holstein-Friesland was bred with a relatively "flat" pelvis. This, and the choice of bulls, plays an important role in the occurrence of calving problems. Strict selection of bulls and the culling of cows that calve with difficulty should therefore be practiced to eliminate this problem. Some lines, especially in the Holstein types, are known for poor leg conformation. This could have a detrimental effect on the life-time production of the cow, due to early culling, and warrants attention. Poor udder conformation could affect adversely the life-time production of cows. All these conformation aspects have been receiving attention from breeders and many have been eliminated in, or are in the process of elimination, from some herds .

The outstanding characteristic of the Holstein-Friesland is its milking ability. High yields of milk of a relatively low butterfat content may be expected. Ease of milking and a good temperament enhance this trait.

THE JERSEY

Of the four better-known breeds of dairy cattle, the Jersey is the smallest. Mature cows weigh between 380 and 450 kg. The breed has its origins on the Jersey Islands. Although the first animals were imported into South Africa in 1881, the S.A. Jersey Cattle Breeder's Society was only formed in 1920.

Jersey conformation is characterized by extreme leanness with a very good udder. Hollow backs may be seen. An extremely good pelvic shape contributes to the very low incidence of calving problems. Lack of size and muscling, as well as a tendency for carcass fat to be yellow, make this breed unsuitable for slaughtering purposes. The small calves are not suitable for veal production.

The outstanding characteristic of the Jersey is its "yellow" milk which has a very high butterfat content. Where payment for butterfat plays a role, or where the consumer demands rich milk, this breed has a place. Jersey milk has the highest protein content of all the dairy breeds, and under the new component pricing systems for milk, the Jersey is increasing in economic viability and popularity.

Jersey cows are famous for their good temperament, but the bulls have been known to be very aggressive.

THE GUERNSEY

The Guernsey originated in the Guernsey Islands. The first animals of this breed in South Africa were imported in 1923 and the S.A. Guernsey Cattle Breeder's Society was formed in 1930.

In many respects the Guernsey has similarities to the Jersey, also originating in the Channel Islands. Ease of calving and milk with a high butterfat content are common attributes. The Guernsey is, however, a larger animal than the Jersey. Mature cows average 450 kgs. Owing to the low numbers of this breed, the availability of bulls is limited.

THE AYRSHIRE

This speckled red to brown and white breed was originally predominantly black and has its origins in the county of Ayr, south-west Scotland.

The first Ayrshires were imported in 1893. They have been registered in the South African Stud Book since 1906.

The breed is a medium-sized dairy breed, mature cows weighing 450 to 500 kg. The conformation is generally considered ideal, with exceptionally sound udder conformation. This is an example of what can be achieved by breeding because there was a time when Ayrshires were criticized for having poor udders. The occasional small, meaty udder is a legacy of that period. Their size allows reasonably good results to be obtained when animals are slaughtered.

The milk is white, like that of the Holstein-Friesland, but has a relatively high butterfat content.

As in the case of the Guernsey, a small population limits the availability of bulls.

CHOOSING A BREED

All cattle breeds, and some goat breeds, have the ability to supply milk surplus to the needs of their young. If one is keeping just one or two cows for purely household purposes then it is not essential to keep dairy cows, since even beef cows can be milked. However, for commercial milk production, consistently high yields are essential if a dairy enterprise is to retain its

viability. In the major dairy countries of the world, such as Israel, the production tendency was towards high yields within a short lifetime. However, certain problems arose, as a result of which the trend throughout the world has changed towards selection for high yields with a good butterfat and protein composition, essential under the emphasis for high component pricing for protein, over a long lifetime.

In selecting a breed, the farmer will do well to examine his farming enterprise with care and to choose a breed that suits his requirements. The availability of both cows and bulls is an important consideration in this choice. Jerseys are far more heat resistant than Holstein-Frieslands and are also better foragers. Therefore, Jerseys are more suited to hot areas such as the Transvaal Lowveld, and to more extensive dairying. Ayrshires are also said to be good foragers but they are more sensitive to bad stockmanship than are Holstein-Frieslands or Jerseys.

Animals can usually adapt to a new environment, but this can be a lengthy process. Buying animals from an area with similar climatic conditions, preferably close afield, is therefore a commendable practice.