

COMPARATIVE MILK PRODUCTION OF FIRST, SECOND AND THIRD GENERATION  
FEMALES IN A DAIRY BREED DEVELOPMENT PROGRAM

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The Australian Friesian Sahiwal (AFS) breed is being developed by the Queensland Department of Primary Industries as a tick resistant dairy breed for use in the whole milk orientated dairy industry in the State.

A crossbred animal based on a  $\frac{1}{4}$  Sahiwal,  $\frac{3}{4}$  Friesian genotype was developed. This genotype was maintained by *inter se* matings to produce F<sub>2</sub> and F<sub>3</sub> animals.

Until April 1979, all AFS heifers were reared and mated at Kairi Research Station, and transferred to Ayr Research Station for evaluation of milk production on their first lactations. In the period 1972 to 1979, the first 120 days of lactation was used to select heifers. Heifers which milked for 120 days and were producing in excess of 20 kg milk per week during the 14th week of lactation were retained in the program.

In all, 199 AFS heifers have been tested under this 120 day method between 1972 and April 1979. The results of lactation testing by generation are shown in Table 1.

TABLE 1: An analysis of lactation tests according to generation

CLASS OF ANIMAL	ANIMALS PASSING TEST					ANIMALS FAILING TEST	
	Tested	Passed	Pass%	120 Day Milk Production	S.D.	Milk Prodn	Days Lact
F <sub>1</sub> AFS	94	36	38	965 l	270	86	30
F <sub>2</sub> AFS	64	46	72	1001 l	333	84	25
F <sub>3</sub> AFS	41	34	83	874 l	249	181	43
TOTAL	199	116	58				

The culling rate on F<sub>1</sub> AFS was high, but is largely influenced by the poor performance by progeny of two of the 8 Sahiwal sires used. The culling rate in F<sub>2</sub> heifers may be influenced by the practice of retaining heifer progeny of F<sub>1</sub> animals which subsequently failed to lactate for a reasonable period. Several influences such as age at calving, time of calving, production of dam and sire are responsible for the lower milk production of the F<sub>3</sub> generation. Production levels in the years 1972-76 were markedly lower than in 1977-79 due to improved winter nutrition of all animals at Ayr Research Station. A large proportion of the F<sub>3</sub> heifers were lactation tested in this 1972-76 period. Proven F<sub>2</sub> and later generation sires will be available from 1981.

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