

INTEGRATION OF STRAIGHTBRED AND CROSSBRED SYSTEMS OF BEEF PRODUCTION

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In a ten-year project supported by the Australian Meat Research Committee, production from a beef herd with a 'conventional' breeding system based on selection of above-average wean-weight bulls and the heaviest heifers (see Figure 1) is being compared with a beef herd management system incorporating high serving capacity and high growth-rate bulls used on all cows, low dystocia potential bulls on heifers and highly fertile cows (see Figure 2).

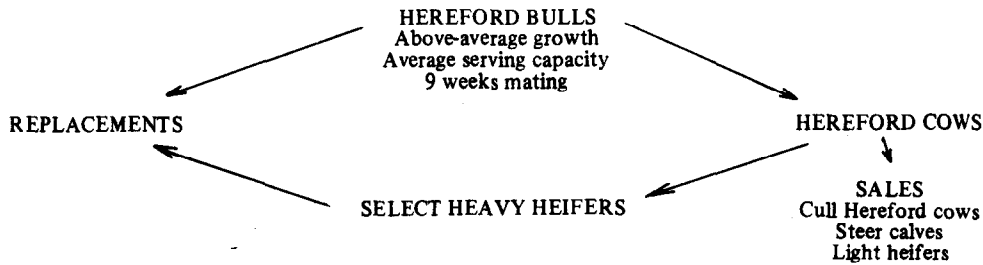


Figure 1: Conventional straightbred system

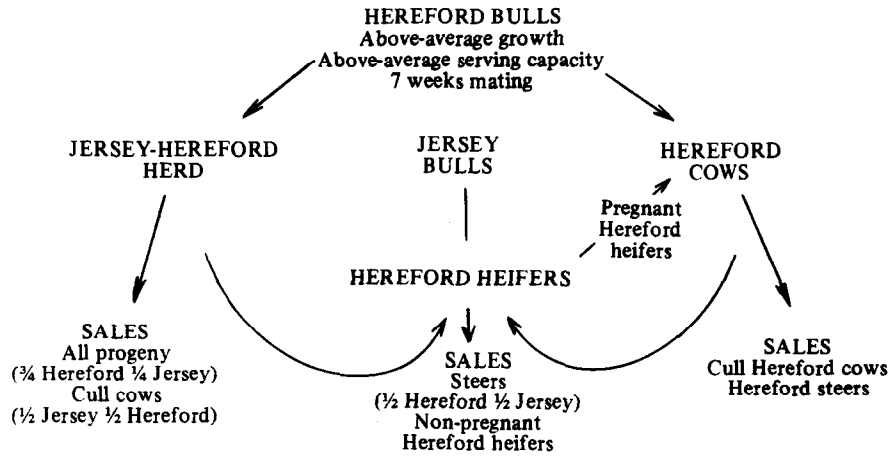


Figure 2: Integrated system

PROGRESS REPORT

Cows were run together except during the mating period. Results on the calving of cows of the two systems are presented in Table 1. The Hereford cows of the integrated system have recorded pregnancy rates which did not differ significantly from those recorded for the cows in the straightbred system in any year.

Calf weights at birth and weaning from the two systems are presented for male and female calves in Tables 2 and 3, respectively. Hereford calves in the integrated system were born earlier than calves in the straightbred system each year but this has not yet resulted in a significant increase in weaning weight.

Table 1: Calving of cows from straightbred and integrated systems of beef production

	<i>Conventional Straightbred Systems</i>			<i>Integrated System</i>		
	1981	1982	1983	1981	1982	1983
No. cows & heifers exposed to bulls	101	117	104	140	121	143
Calving % (calvings to bull exposure)	94	68	88	87	77	89
Weaning % (weaned to bull exposure)	91	62	81	86	74	81

Table 2: Birth and weaning results of male calves from straightbred and integrated systems of beef production

<i>Cow Breed</i>	<i>Conventional Straightbred System</i>			<i>Integrated System</i>					
	Hereford			Hereford			Jersey x Hereford		
	1981	1982	1983	1981	1982	1983	1981	1982	1983
Number	46	44	37	41	42	48	17	18	15
Day of Birth	86	84	91	84	77	77	79	91	85
Birthweight (kg)	36	34	38	36	34	36	33	33	36
Actual Weaning *Wt (kg)	263	260	252	262	262	259	258	263	264

Table 3: Birth and weaning results of female calves from straightbred and integrated systems of beef production

<i>Cow Breed</i>	<i>Conventional Straightbred System</i>			<i>Integrated System</i>					
	Hereford			Hereford			Jersey x Hereford		
	1981	1982	1983	1981	1982	1983	1981	1982	1983
Number	46	34	48	50	36	43	12	21	17
Day of Birth	83	84	83	84	80	67	76	81	81
Birthweight (kg)	34	33	34	35	33	33	28	29	35
Actual Weaning *Wt (kg)	230	249	234	244	242	239	237	244	256

* Mean ages of 260, 238, 233 for 1981, 1982, and 1983 respectively.