

## THE NON-SURGICAL COLLECTION AND TRANSFER OF BOVINE EMBRYOS ON FARMS IN QUEENSLAND

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Most non-surgical collections and transfers of bovine embryos have been carried out under laboratory conditions (Baker and Jillella 1978; Jillella and Baker 1978). There are no published reports indicating the practical application of the non-surgical technique on farms under Australian conditions. The present work was performed under a wide range of managemental and environmental conditions on farms in Queensland during 1977-79.

Twenty-four donor Friesian, Australian Illawarra Shorthorn (AIS), Charolais and Simmental cows, and 116 recipient Friesian and AIS cows were used in the investigation. The superovulatory treatments and the non-surgical methods of collection and transfer of embryos were as described by Sreenan (1975), Baker and Jillella (1978) and Jillella and Baker (1978). Half of the superovulatory and synchronisation treatments and artificial inseminations were carried out by local veterinary practitioners in consultation with the authors. Oestrus was detected mainly by the farmers. The conditions and facilities under which the embryos were collected, handled and transferred varied from poor to reasonably good. The results are presented in the table.

TABLE 1 Results of non-surgical collection and transfer of bovine embryos

Location and no. of donor cows used	Particulars of ova collected					No. of ova transferred	No. of Pregnancies (45 days post -oestrus)
	No. of ova	Age (days)	Developmental Stage	Grade			
Atherton	2	15	9	Early blastocysts	Fair	15	3
Brisbane	8	37	9	"	Fair to good	37	14
ObiObi	4	34	9	"	Poor to good	10	4
Gympie	2	7	10	Late blastocysts	Good	7	2
Maleny	1	11	11	"	Good	11	5
Harrisville	7	42	10	"	Good	36	13
Total	24	146				116	41

An average of 6.0 embryos per donor cow was collected, of which 4.8 were transferred. An overall conception rate of 31% was recorded at 45 days post-oestrus. Although the conception rate was low, it compares favourably with the range of 28-53% reported by Schneider *et al.* (1930). The low conception rate may have been due to variables such as facilities for collection, handling and transfer of embryos, management of donor and recipient cows and superovulatory and synchronisation treatments which were beyond the control of the operators. However, if these variables are strictly controlled it should be possible to achieve higher conception rates using simple and inexpensive non-surgical collection and transfer techniques on the farm.

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