

## SIR ARTHUR WARD AWARD 1993

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### Brian Curson

In 1969 the NZ Dairy Board decided to set up a semen research group at Newstead. Brian Curson was a member of that original group which was led by Pat Shannon.

There were many problems for this research group to tackle, for example improvement in the conception rates of artificially inseminated cows; improvement in the keeping quality of liquid semen, and reduction in the number of sperm required to achieve good conception rates. The major success of the group was to develop a diluent, used at ambient temperatures, which enabled the sperm dose to be reduced from 20 to 2 million sperm without any loss in conception rate.

Brian's role in these developments was not only to participate in the research process but also to ensure a smooth transition of the techniques from the research lab to full commercial production.

Semen had been issued to technicians in multi-dose test tubes. This system, although effective was somewhat wasteful. It was realised that the ideal method of storing the semen would be in single dose packages of the type used for frozen semen. Brian undertook this project.

There were two types of frozen single dose systems: French and German straws. Both had been widely used for frozen semen.

However, at ambient temperatures the French straw was pervious to air resulting in reduced life of sperm. Brian therefore, centred his attention on the German straw. Whilst trials with hand filled straws were successful, scaling up the process revealed a quirk in the German automatic filling equipment which could, spasmodically, severely damage sperm.

Cooperation with the German manufacturer led to the development of a new machine. Trials with straws filled by the new machine were successful and the system was adopted for all liquid semen.

The result of its adoption has been to reduce wastage by over 20% and, because of the better storage conditions, extend the shelf life of liquid semen from 3 to 6 days. A notable achievement.

It is Brian Curson's involvement with this significant achievement that the New Zealand Society of Animal Production have recognised in presenting him with the Sir Arthur Ward Award for 1993.

P Shannon