

reduced from two to one daily. The experiment was also planned to give information on the effect of storage time on conception rate. The results are summarized below :—

Conception Rate: Winter Mating

Storage Time.	High Dose (150 Million).			Low Dose (35 Million).		
	Six Hours.	Thirty Hours.	Fifty-four Hours.	Six Hours.	Thirty Hours.	Fifty-four Hours.
Hourly basis ..	Per Cent. 74	Per Cent. 66	Per Cent. 65	Per Cent. 65	Per Cent. 62	Per Cent. 57
Rate, regardless of age	..	69	..	..	62	..

Though there was a difference of 7 per cent. in conception rate in favour of the high dose, the low dose maintained the very satisfactory level of 62 per cent. Only slight differences existed between semen stored for the periods 0–6, 24–30, and 54 hours. The bull employed proved capable of maintaining a service three times weekly for six weeks. The general conception rate was as high as previously maintained under twice-a-day servicing of cows, so that it may be concluded that reduction to once a day produced no deterioration in results. The work also indicated that plastic ampoules could replace glass in the inseminating gear with many technical advantages and no ill-effects upon conception rate.

(b) Spring-mating Group: In view of the above results, the spring work was designed to see how low the dose rate could be cut without unduly affecting conception.

Work commenced ten days before the normal breeding-time to allow the try out of very small dose rates. The dose was progressively increased, so that by the 1st October a reasonable rate of conception was assured. Dose rates of 1, 5, 10, 15, 20, and 25 million were given to a group of 60 cows for each dilution. The one bull was used for this work. The results are shown below :—

Conception Rate for Graded Doses of Semen

Dose Rate (Millions).	Conception Rate (per Cent.).	Dose Rate (Millions).	Conception Rate (per Cent.).
1	2	20	46
5	11	25	58
10	5	50	61
15	34		

The bulk of the rest of the mating for the season was done with 150 million sperms per dose with no better results than with a dose rate of 25 million. In relation to work of previous years, it appears that the uterine technique will permit conception rates with a dose of 25 million sperms at as satisfactory a level as will the cervical technique with 250 million sperms. It is also clear that increasing the dose rate under the uterine technique does not improve the conception rate once the minimum practical limit has been attained.

The spring-mating work confirmed the winter-mating results in respect of the adequacy of the once-a-day visit, the practicability of storing semen for up to fifty hours to maintain a satisfactory field service, and the usefulness of the plastic-ampoule method of distribution and insemination. The spring-mating work also brought to light a feature not previously experienced in New Zealand, but in line with common experience in the United States. Four technicians were used as inseminators, but one of these was singularly unsuccessful, the conception rate obtained by him averaging only 19 per cent., as compared with 58 per cent. of the other three men. This points to the extreme care necessary in selecting and training technicians for this work, since, under New Zealand conditions, where the one technician is handling a group of