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**A STATISTICAL STUDY ON THE SEMEN CHARACTERISTICS  
OF PAIRS OF FULL-BROTHER BULLS USED  
AT THE A I CENTERS**

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(Summary of Masters thesis written under direction Dr. T. ISHIKAWA)

An attempt is made in this study to analyse statistically the semen characteristics of full-brother bulls, with particular attention on the age, the season and the environment.

I Three characteristics - volume, concentration and total number of sperm collected during one year were analysed.

1) In the case of full-brothers of same age, at different centers, the individual differences in the three characteristics were highly significant, but differences due to pairs, and age in year, were not significant,

2) In the case of each pair of the same age at different centers, the differences due to age in month were not significant and moreover the significant differences were not found in each of three characteristics.

3) In the case of the individuals at the same season at the different centers, the differences due to pairs were not significant and differences due to individuals and season were highly significant.

4) In the case of one pair of three full-brothers at different centers, the differences due to individuals were highly significant but differences due to age in year were not significant.

5) In the case of one pair of full-brothers at same centers, the differences due to individuals were highly significant but differences due to age in month were not significant.

II In the case of semen smears obtained from three pairs of full-brothers the differences in the frequency of abnormal sperm heads due to individuals were significant and no abnormal sperm which was specific in the pair of full-brothers was found.