Individual ram variation on fertility after AI with refrigerated (RS) or frozen (FS) semen was assessed in Saloia breed. The study lasted four years using 1116 ewes (RS=696, FS=420; 17 and 5 rams, respectively). Four of those rams were used in both RS and FS. Oestrous synchronization was done with FGA sponges and 500 IU of eCG given at sponge removal (D12). RS semen (15 °C) was diluted with skimmed cow milk and FS in a tris-based extender with glycerol and egg yolk. AI was done once at 55 hours after sponge removal in both groups. AI with RS was done in spring and autumn. FS was processed in spring, autumn and winter, AI being performed in spring. Fertility after AI with RS was not different among years and seasons. Fertility with RS (48.5 %) was higher (P<0.001) than with FS (13.0 %). There was no significant individual ram variation on fertility with RS (range: 28.6 - 63.2 %). Fertility with FS was not influenced by individual ram variation (range: 6.7 - 20.1 %), year and season of freezing. Considering 4 rams running on both RS and FS groups, fertility with RS was 48.0 ± 10.2 % and 13.6 ± 5.7 % with FS (P<0.001). Fertility coefficients of variation among rams either with all ram population or with rams belonging to both RS and FS were similar (RS: 21.7 and 21.3 %; FS: 39.1 and 41.6%, respectively) but higher in the FS. A significant decrease of fertility was observed when using frozen semen. Variation among rams was found higher when using frozen than refrigerated semen due to individual susceptibility to freezing.