DEPARTMENTAL NOTES.

ARTIFICIAL INSEMINATION OF CATTLE

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IN *The Tropical Agriculturist*, October, 1938, page 231, it was announced that tests on artificial insemination of cows had been carried out at the Veterinary Laboratory, Peradeniya, and that facilities were available for extended trials.

This note is published to announce the birth of the first two calves to be born in Ceylon as the result of artificial insemination.

The semen used was collected by means of the Cambridge pattern artificial vagina. This consists of a cylinder into which is inserted a rubber tube (like the inner tube of a motor tyre) which is doubled over at the ends. The space between the cylinder and the rubber is then filled with water at body heat, and the inside of the tube lubricated with vaseline. A glass receptacle is fitted in the upper end to receive the sperm.

A cow in heat or a quiet cow which is not in heat is used for collecting semen. It is placed in a service trevis, preferably in a place normally used for serving cows, so that the bull when brought to the cow anticipates service.

When the apparatus is ready, the bull is led up to the cow. The collector is on the right side of the cow, holding the artificial vagina by the middle, mouth downwards. As the bull mounts, the artificial vagina is interposed against the flank of the cow with the opening directed towards the penis at an angle of 45°. As soon as the penis comes in contact with the warm lubricated surface of the artificial vagina, the bull ejaculates into the glass cup at the upper end of it. The cup is removed and the semen in it quickly covered with a layer of medicinal liquid paraffin. The semen thus obtained is examined macroscopically and microscopically for quantity, colour, consistency, and mobility of spermatozoa.

A bull normally gives 5–7 c.c. of semen at one ejaculation. A cow is inseminated while on heat, or a few hours (up to about eight) after the end of heat, and half to one c.c. of undiluted semen is injected into the uterus straightaway, or diluted with physiological saline if kept in the refrigerator for any length of time.

The actual operation consists of passing a speculum into the vaginal passage of the cow to expose the entrance to the uterus. When this is clearly visible, the nozzle of a syringe is introduced about $1\frac{1}{2}$ cm. into the uterus and the plunger pressed gently and slowly. The syringe and speculum are then withdrawn.

First Case—

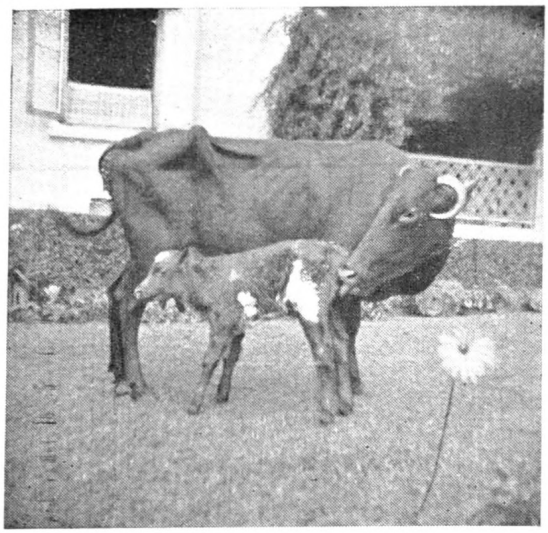
A red cross-bred cow, 11 years old with a history of having had five calves previously, belonging to a private owner living close to the Veterinary Laboratory, was inseminated on September 2, 1938. It showed signs of heat 36 hours previous to insemination. A stock of semen was available in the Laboratory collected from the imported Ayrshire bull (see photograph) on August 30, 1938. This was examined for mobility and was found quite suitable for insemination. One c.c. of diluted semen was used, the diluting fluid being physiological saline. This semen was 68 hours old when used.

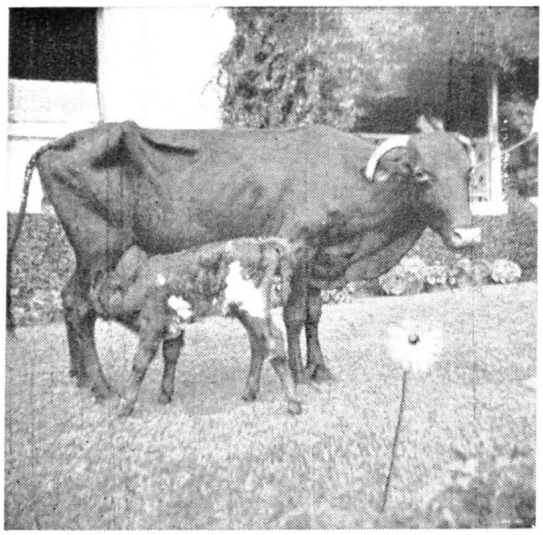
A bull calf, brown with patches of white, was born on June 9, 1939. It weighed 52 lb. at birth. The length of pregnancy in the mother animal was 9 months and 7 days or 280 days (see photograph of cow and calf).

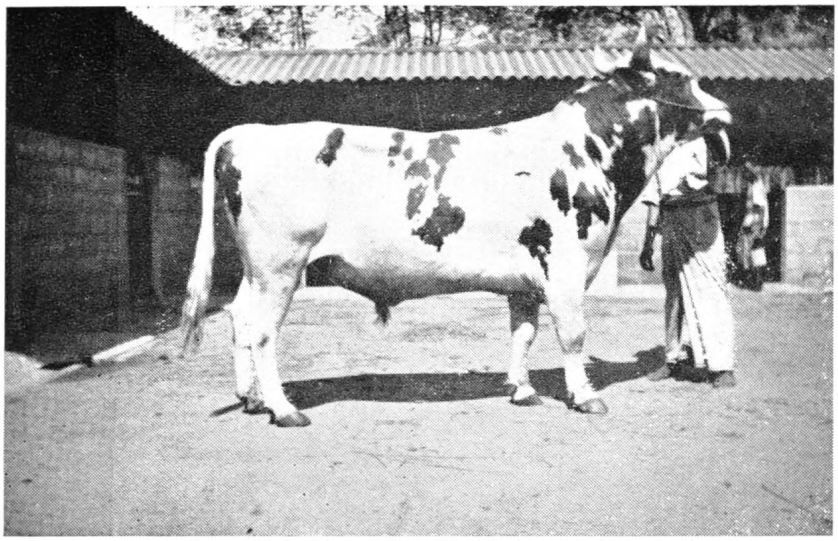
Second Case—

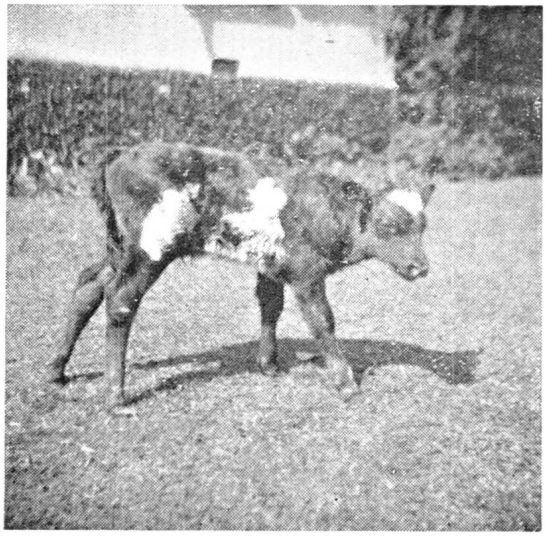
A red and white heifer, about 18 months old, belonging to a private owner in Kandy, was inseminated on September 7, 1939, with 1 c.c. of undiluted semen, a few minutes after collection from the imported Kerry bull " Carmoney Hero (11) ". Being a heifer certain anatomical difficulties were encountered with regard to passing of speculum. An effort was made to inject the semen as near the cervix as possible.

A dark-brown calf weighing 56 lb. was born on June 16, 1939. The length of pregnancy of the mother animal was 9 months and 6 days, or 279 days.









Blocks by the Survey Department.