

GROWTH RATE STUDIES WITH CALVES, LAMBS AND

GOATS IN THE WET TROPICS.

SUMMARY AND CONCLUSIONS.

1. Live weight data of growing stock which have been accumulated at the College Farm over the past few years, and monthly weights of calves reared on the Government Stock Farm from October 1953 to March 1954 have been analysed. Differences in growth rates, including those due to season and management, have been examined.
2. It has been shown that $\frac{3}{4}$ grade Holsteins reared under good conditions, grew at a percentage rate comparable with pure bred Holsteins reared under temperate conditions, except from the age of four to twelve months when some retardation occurs. It is suggested that the cause of the retardation in growth may be nutritional or lack of adaptability to the environment.
3. $\frac{1}{2}$ - $\frac{5}{8}$ grade Holsteins were not retarded in growth rate from the age of six to twelve months, but made slower rates of growth from birth to six months of age.

The similarity in the course of growth between pure and $\frac{3}{4}$ grade Holstein and $\frac{3}{4}$ grade Ayrshires, and the large effect of birth weight on mature weight, is brought out by plotting the logarithm of weight against age.
4. Lambs suffer a severe check in growth at two to four months of age, but goats do not.
5. It has not been possible to establish any definite correlation between rate of growth and climatic conditions, but there is an indication that growth rates are depressed during the wet months of July and August.
6. Growth rates obtained from calves under an outdoor system of management have proved to be inferior to those obtained using a semi-indoor system. The latter system had considerable advantages in nutrition and management.