

Marked variations in the lime content of the pasture during the season occurs on both treated and untreated plots. The curve for the lime content is essentially different from that of the other constituents.

The lowest percentages occur in the early spring, but a rapid rise then takes place during the summer. In the case of untreated pasture the percentage increases until the March period, when a fall in the lime content occurs. In the case of pasture receiving a complete treatment of lime, superphosphate, potash, and ammonium sulphate the variation in the lime content during the autumn is not so great, probably due to a more balanced flora.

The two sets of curves (see figs. 1 and 2) illustrating the variation in chemical composition of both treated and untreated pasture are of great interest in connection with mineral-deficiency studies. They show the differences which are likely to be found in a comparison of a rather poor pasture (untreated) with a fairly good pasture (treated). It will be seen that in the case of the untreated pasture two critical periods of high deficiency in the constituents occur. The first period is connected with early spring growth and the second with December growth. The untreated pasture

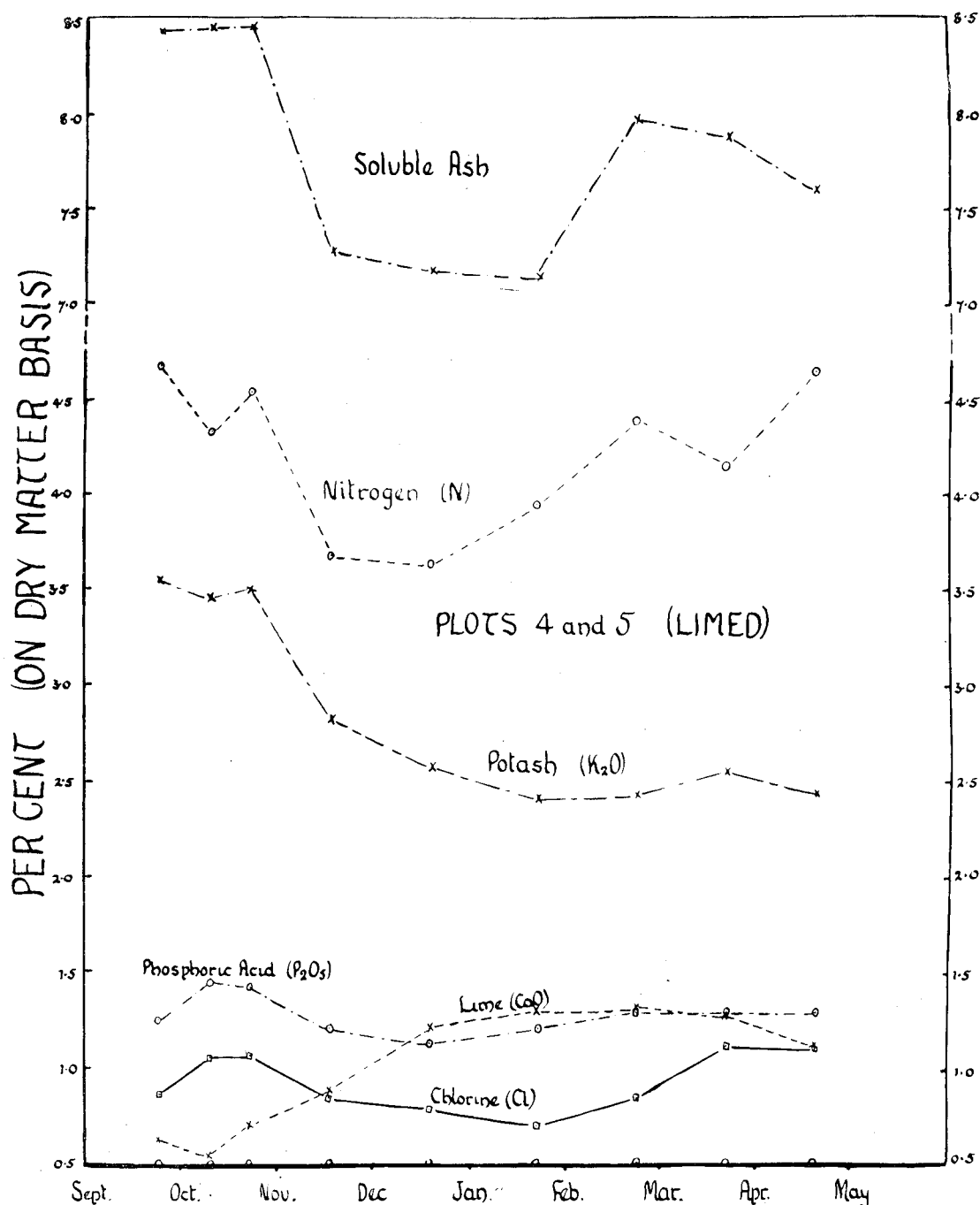


FIG. 1.—INFLUENCE OF MANURIAL TREATMENT ON CHEMICAL COMPOSITION OF A NELSON PASTURE (MOWN CUTS).
Treatment: 1 cwt. ammonium sulphate, 2 cwt. superphosphate, $\frac{1}{2}$ cwt. sulphate of potash. Ground limestone at the rate of 1 ton per acre was applied in July, 1926.

NOTE.—The circles on the axis give the mean date of the growth period for which analyses are given.