as substantiating the observations made here, that is, that potassium chloride increases the fungicide function of nystatin.

Lampen *et al.*[3] have shown that nystatin is attached to the cell wall by two surfaces, one of them contained in the cell wall, the other, the important one from the point of view of the effect, contained in the protoplast membrane. Preliminary experiments show that potassium chloride reduces the attachment of nystatin to the cell surface by 70–80 per cent. So it is possible that the cause of the effect observed here is the decrease of the attachment which is unimportant from the point of view of this effect.

Under the experimental conditions described here it is possible to carry out a much more sensitive microbiological determination of polyene antibiotics than used hitherto. A particular significance can be attributed to this in view of the fact that the results of sensitive chemical methods used at present, which are based on ultra-violet spectrum analysis, are not in accord with the changes of biological activities, especially if decomposition occurs in a greater or lesser degree.

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VETERINARY SCIENCE

Effect of Applying a Metabolic Harness on the Plasma Magnesium Concentration in Milking Cows

Hypomagnesæmic tetany (grass tetany) in cows is still an economically important problem in many countries of the world such as Holland, Great Britain, Germany, Belgium, France and New Zealand, in spite of the work done in connexion with the pathogenesis and the prevention of this disorder.

Some investigators in Holland and other countries postulated that hypomagnesæmia is solely due to the chemical composition of the lush spring sward giving rise to an inadequate magnesium intake (Kemp[1,2] and Rook *et al.*[3]). Other investigators claim that the pathogenesis is related to certain metabolic alterations in cows[4]. In a lecture delivered at Ghent (Belgium), Seekles[5] gave as his opinion that hypomagnesæmia and hypomagnesæmic tetany are most intricate problems in which somatic and ecological factors including the composition of the feed, climatic conditions and internal factors play a part.

The purpose of this communication is to show that ecological factors independent of the composition of feed and climatic influences may produce hypomagnesæmia.

In the course of the balance trials, the details of which will be described elsewhere, a metabolic harness was placed on two milking cows in order to separate fæces and urine quantitatively. The harness, which is a modification of the one devised by van Es and Vogt[6], has been described by me[7].

It should be mentioned that both cows had a history of hypomagnesæmia, hypomagnesæmic tetany and milk fever.

Table 1. Composition of Hay fed to Two Milking Cows
(Dry matter basis; 70° C)

Element	Content (%)
Calcium	0·47–0·63
Magnesium	0·13–0·16
Potassium	1·40–1·92
Nitrogen (Kjeldahl)	1·26–1·50
Phosphorus	2·56 mg–340 mg %

Throughout the experiment the cows received hay *ad lib.* from the same lot. Table 1 shows the concentration of calcium, magnesium, potassium, nitrogen (Kjeldahl) and phosphorus (on dry matter basis; 70° C) of the hay.

The experimental period was divided in two parts. In the first part, lasting three weeks, no harness was applied. In this period the magnesium content of the blood plasma of cow No. 1 varied from 1·8 to 2·2 mg per cent and of cow No. 2 from 1·7 to 2·0 mg per cent. On the first day of the second part of the experimental period we applied the harness to both cows. The magnesium content of the blood plasma was 2·1 mg per cent and 1·9 mg per cent respectively. On the second day the magnesium content of the blood plasma was reduced (Table 2). From Table 2 it is clear that after removing the harness after 4 days the magnesium content of the blood plasma rose to about the original level. After re-application of the harnesses some days later the magnesium-level of the blood plasma dropped slightly after three days in one cow only. The mean daily magnesium balances in the second part of the experiment were found to be 1·12 g and 2·31 g respectively.

Table 2. Magnesium Content of the Blood Plasma of Cows after Application, Removing and Re-applying of Metabolic Harnesses

Period	Day	Cow No. 1	Cow No. 2
First (no harnesses applied)		1·8–2·2 mg %	1·7–2·0 mg %
Second (harnesses applied)	1st	2·1 mg %	1·9 mg %
	Application of harnesses		
	2nd	1·3 mg %	1·5 mg %
	3rd	1·3 mg %	1·4 mg %
	4th	1·2 mg %	1·3 mg %
	5th Harnesses removed		
	8th	1·9 mg %	2·3 mg %
	9th	2·3 mg %	2·0 mg %
	10th	2·0 mg %	1·9 mg %
	11th	1·8 mg %	1·6 mg %

It follows from this experiment that still a factor or factors other than the concentration of certain elements in the feed may cause a drop in the magnesium content of blood plasma.

It should be pointed out that the harnesses did not give rise to any skin lesion and that the cows had no clinical signs, for example, excitation, nervousness, etc., even when the concentration of magnesium in the blood plasma was rather low.

All chemical analyses have been performed by methods described in my thesis[8].

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VIROLOGY

A Difference in Susceptibility to Lymphoid Leukosis Virus and Rous Sarcoma Virus between Cells from Two Inbred Lines of Domestic Fowl

Genetic factors play an important part in the susceptibility of domestic fowl to lymphoid leukosis virus and Rous sarcoma virus (RSV)[1]. Little is known, however, of the way in which traits for susceptibility or resistance to these viruses are translated in the fowl into differing responses to the viruses. Evidence that there may be a