

5 per cent of nitrate calculated as potassium nitrate, and an enzyme is present in the plant capable of reducing nitrate to nitrite, apparently through oxidation of glucose.

Two pounds of the dried plant mixed with water, allowed to stand for twenty hours and fed to a sheep, produced fatal methæmoglobinæmia, the oxygen-carrying capacity of the blood being reduced in five hours to approximately 30 per cent of the normal.

Furthermore, the higher nitrate content of the plant³ is of itself capable of being toxic without the intervention of the reducing enzyme and was shown in subsequent experiments. We suggest that *Salvia reflexa* may be typical of a group of plants which under appropriate conditions can accumulate nitrogen as nitrate very rapidly and thus at times be poisonous to stock.

A full account of this work will shortly be published in the *Australian Veterinary Journal*.

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University of Queensland,
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May 29.

¹ Commonwealth Council for Scientific and Industrial Research. Pamphlet No. 49. Melbourne (1935).

² Rimington, C., *South African J. Sci.*, 30, 472 (1933).

³ Cf. Seekles, L., and Sjollem, B., *Arch. wiss. prakt. Tierheilkunde*, 65, 331 (1932).

Salaries of Scientific Workers

IN NATURE of July 1 there appears an advertisement asking for applications for a post under the Ministry of Agriculture and Fisheries, which requires a botanist with an honours degree and at least two years experience of research in systematic botany. The starting salary offered is £155 per annum. We would like to point out that this salary is not only incommensurate with the training required, but is also far below the normal salaries obtaining in Government departments for men of science holding equivalent qualifications.

In the same issue of NATURE there is an advertisement under the name of University College, Southampton, requiring the services of a research assistant of graduate standing who will receive free board and residence and a remuneration of £50 per annum. We also wish to direct attention to the salary offered, £250 a year, in the same advertisement for the post of superintendent of the Branch for Southern Rivers, Freshwater Biological Association.

REINET FREMLIN.
(Secretary.)

Association of Scientific Workers,
30 Bedford Row,
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July 4.

Points from Foregoing Letters

F. Kögl and H. Erxleben state that the method used by Chibnall *et al.*, although very suitable for the isolation of natural glutamic acid, appears not to be applicable for detecting the partial racemization of glutamic acid in hydrolysates from tumour proteins. The presence of racemic glutamic acid in tumour proteins was shown by the isolation of the *d*-form.

S. Brohult and S. Claesson have investigated the influence of different types of salts and of some non-electrolytes on the dissociation of the hæmocyanin molecule. The dissociation reaction, usually reversible, seems to be of a general type, as it is caused by ions as well as by uncharged molecules.

B. Mukerji and R. Ghose suggest a new method for measuring liver function. Under ordinary conditions, no free chloral appears in the urine of dogs given this substance. When the liver is damaged by the chronic administration of carbon tetrachloride for 18 weeks, appearance of free chloral in significant amounts following the administration of the drug was observed in the urine.

Albert Fischer states that the growth-promoting principle of embryo extract is found in the fraction of nucleoproteins isolated by the method of Hammarsten. The ratio of phosphorus to nitrogen is rather low. The active fraction contains ribose nucleotides and very little thymonucleic acid. The activity is destroyed after digestion with trypsin and after boiling for a few minutes. Restoration has been possible after coupling of two inactive components. Precipitation in the ultracentrifuge indicates that the active principle is of high molecular order.

Evidence has been obtained with white rats by J. Argyll Campbell that under very low oxygen pressure toxic substances accumulate in the intestine. Certain proteins, for example, casein, egg albumin, meat and fish, in the diet give adverse effects. Certain amino acids, for example, histidine, arginine

and cystine, also give adverse effects. Bacteria are held responsible for the toxic substances.

Werner Braun reports on some experimental work in physiological genetics. Using the fruit fly as material, he records experiments on the development of the mutant responsible for the transformation of the bristle on the antenna into a tarsus, and on the development of mutant wing characters.

C. F. Powell and G. E. F. Fertel have developed a technique for the determination of the energy of protons and neutrons by measurement of tracks made by these particles on special photographic plates. For many investigations the method has great advantages over the expansion chamber technique.

J. Barnóthy and M. Forró find that the results obtained by measuring the directional distribution of the soft and hard component of cosmic radiation can be explained by assuming that the radiation at sea-level consists of 65 per cent mesons, 30 per cent electrons produced in meson decay, and 5 per cent of electrons or heavy ionizing particles created by neutrinos, this part of the intensity being invariant for all directions.

S. Sossinski points out that he and Sokolow published in 1936 work in which they showed that an electric field has a great effect on the viscosity of polar liquids, a fact to which attention was recently directed by Andrade and Dodd, and suggests a hydrodynamic explanation. E. N. da C. Andrade and C. Dodd, in reply, regret that they overlooked the paper in question, and point out that their work goes much beyond that of Sokolow and Sossinski. They suggest that the effect is due to the building up of comparatively rigid ionic layers on the opposite walls of the channel.

E. C. G. Stueckelberg derives an expression for a point charge electron which can be taken over into quantum theory.