partial removal of fat, it still retains the most highly nutritive protein (casein), a part of the vitamins, most of the calcium and phosphorus. It is, in fact, an excellent source of phosphorus and particularly of calcium. It has been observed in Egypt that in districts where skim cheese is frequently eaten no rickets occur.

M. M. Taha El-Katib

Faculty of Agriculture,
Fouad I University,
Cairo.
Oct. 2.

Use of Growth-promoting Substances for Weed Control in Sports Turf

In a recent article, Templeman[1] discusses the use of growth-promoting substances for selective weed control, referring particularly to agricultural operations with 2-methyl-4-chloro-phenoxyacetic acid ('Methoxone' or M.C.P.A.). He is concerned mainly with annual weeds, while the problems associated with control of well-established perennial weeds in a turf sward call for a somewhat different approach.

Starting only last autumn, we have carried out an extensive experimental programme to try out the most promising of the growth-promoting substances, namely, 'Methoxone' and '2 : 4.D' (2 : 4-dichlorophenoxyacetic acid, D.C.P.A.), on closely mown swards containing the commoner turf weeds. Experiments conducted by us have followed a replicated random block technique. New experiments have been commenced at frequent intervals throughout the year, and different rates and methods of application have been tried. In addition, the effects of mowing and of different fertilizer treatments have been studied in conjunction with the two substances. A considerable number of simple large-scale co-operative trials conducted throughout Britain are providing ample confirmation of our experimental findings as regards 'Methoxone', but adequate supplies of '2 : 4.D' were not available in time for similar large-scale trials to be carried out with it this year. We hope to pursue this object next season.

Results have been most gratifying. Under suitable conditions of weather and growth, 'Methoxone' applied at the rate of 6 lb. per acre, as spray or powder, will give practically complete control of the more common weeds of turf including broad-leaved plantain (*Plantago major*), ribwort plantain (*P. lanceolata*), buck's-horn plantain or starweed (*P. coronopus*), self-heal (*Prunella vulgaris*), creeping buttercup (*Ranunculus repens*) and cat's-ear (*Hypochœris radicata*). We have found control to be speedier and more efficient if application of 'Methoxone' is preceded by a dressing of nitrogenous fertilizer, such as sulphate of ammonia. This seems to increase the effect of 'Methoxone' on the weeds and at the same time masks the slight check caused to the growth of the sward. It also encourages the grass to 'fill in' after the weeds. Results with '2 : 4.D' are not dissimilar from those obtained with 'Methoxone', although it seems possible that rather lower rates per acre may prove adequate.

Typical results are shown in the accompanying table, which summarizes some of the results obtained in an experiment carried out on a local cricket ground in July. Effective control was measured six weeks after treatment, all plots in this case having received pre-treatment with nitro-chalk seven days in advance of the weed-killer application. The 'main weeds' were daisy (*Bellis perennis*), dandelion (*Taraxacum* sp.), clover (*Trifolium repens*), plantain (broad-leaved and rib-wort) and self-heal.

Treatment	Percentage area covered by 'main weeds'		Per cent control
	Before treatment	After treatment	
Control	25·8	26·2	—
6 lb. 'Methoxone' per acre as spray	25·8	2·6	89·9
6 lb. 'Methoxone' per acre as powder	33·5	5·6	83·3
6 lb. '2 : 4.D' per acre as spray	43·0	3·4	92·1
6 lb. '2 : 4.D' per acre as powder	35·2	0·7	98·0

Heavy rain falling shortly after application of either chemical is likely to nullify its effects. The experiments show some differences between the effects of 'Methoxone' and '2 : 4.D', such as, for example, in persistency and in effects on germination and growth of grass seeds.

A fuller account of this work will be published in the next issue of the *Journal of the Board of Greenkeeping Research* and elsewhere; to those responsible for the management of turf the introduction of 'Methoxone' and '2 : 4.D' would appear to open up an entirely new approach to the turf weed problem.

R. B. Dawson
J. R. Escritt

Board of Greenkeeping Research,
St. Ives Research Station,
Bingley,
Yorkshire.

[1] *Agriculture*, **53**, No. 3, 105 (1946).

Methods of Marking Reptiles for Identification after Recapture

When studying, in the summer of 1939, a mid-Swedish population of the grass-snake, *Natrix n. natrix* (L.), we considered it necessary to work out some method of identifying each individual snake from year to year, making it possible to follow its changes in colour and size, etc., with increasing age, the appearance and subsidence of sicknesses, the healing of wounds, the sexual cycle, and movements within the territory inhabited by the population. The movements of individuals could not be studied in any other way; and the morphological changes with age were otherwise determinable merely as a result of statistical population studies, which could only be rough approximations, the individual variation in growth being far too great for it to be possible to distinguish the higher age-classes even with plentiful material.

Three methods, with some variations, were tried concurrently. Scissor cuts removing part of a subcaudal shield were made in various combinations, permitting of the distinctive marking of a great number of individuals. This method was used some years ago by Blanchard and Finster[1] with some American snakes, among which was also one of the genus *Natrix* (*N. sipedon*). However, such marks do not seem to be quite permanent, the growth of the shield leaving after some years but slight trace of the incision. Thus it is necessary to recapture the