

I have now completed an experiment in which the following results (among others) were obtained with the "great millet" (Sorghum), single plants of which were grown from germinated seeds for ten days in soil (1) unheated; (2) heated to 97°; and (3) heated to 170°:—

Treatment of soil	Green weight of plants (in grams)	Mean of 8; max. 314, min. 0
Unheated ...	145.5 ...	353, ,, 36
Heated to 97°	151.7 ...	1470, ,, 835
,, 170°	1055.6 ...	

At 170° the soil was obviously sterilised completely, but the yield was four times that from the partially sterilised soil.

F. FLETCHER.

School of Agriculture, Giza, May 14.

POT experiments are carried out by Dr. Hutchinson and myself to run parallel with the chemical and bacteriological examinations of the soils. Productivity is not regarded as synonymous with bacterial activity, although in general the two are intimately related. An exception occurs when the soil has been heated sufficiently to decompose some of the organic matter present with formation of plant food. As stated in my letter, the addition to toluened soil of an aqueous extract of untreated soil increases crop productiveness.

E. J. RUSSELL.

Rothamsted Experiment Station, Harpenden.

Ooze and Irrigation.

THE interest which my former letter has aroused (NATURE, June 9) induces me to offer a few further remarks. For a hundred years it was usually thought that all our earthworms were of one kind, and the term *Lumbricus terrestris* was glibly used. Thanks to the help I have received from curators, gardeners, and nature-lovers at Kew, Chelsea, Oxford, Cambridge, Edinburgh, and elsewhere, my list of British Lumbrici now stands at nearly forty species, belonging to upwards of half-a-dozen genera.

In like manner, nearly all fresh-water worms have, until recent times, been relegated to one species, and *Tubifex rivulorum* was the magic name. Our knowledge of these wonderful ooze-workers is still deplorably limited, but a little progress is being made in their study. We now know that the so-called Tubifex is not a tube-maker, and that it includes such genera as *Limnodrilus*, *Stylo-drilus*, *Trichodrilus*, and others, which represent more than one family, with upwards of twenty known British species. Every year is bringing new forms to light, and each new discovery supplies a missing link.

But, in addition to the ooze-makers belonging to the Tubifex group, I now find that certain species of white worms, which are destitute of red blood, and are usually grouped together as Enchytræids, frequently find employment in this capacity, and often get introduced among valuable plants in garden and field, to the great loss of the horticulturist. Hence the need of a fuller and more systematic study of this branch of science. Here is a subject worthy of Earl Carrington's new committee.

One correspondent remarks that the subject is "very suggestive." He adds a query which needs attention. "I suppose the worms cannot take nitrogen directly from the air like the legumes? If they could assimilate it, of course a very important point would be settled by establishing that fact, though the probabilities are that they cannot." I should like to know what biologists have to say.

Great Malvern.

HILDERIC FRIEND.

New Development in Library Work.

WITH the permission of the council of this society, I have recently instituted a departure in library practice, which I have been asked to describe to you, in the belief that other learned societies may think it worth while to try the experiment.

Fellows of medical and other scientific societies living abroad suffer many disadvantages as compared with their resident brethren, and none so great or so much felt as the deprivation of the use of their libraries. To all our fellows living abroad we now offer to prepare for them, gratis, short abstracts of papers, and even of books, upon

any medical subject, and to search for or check references to medical literature.

The innovation has been most warmly welcomed, and from remote parts of the world we have received many grateful letters. Men living in the Chitral Valley, in the Sudan, in Christmas Island, and equatorial Africa, who for years have had their work hindered by lack of library conveniences, say that what we now do for them is even better than they could have done for themselves had they been in London, for even here they would probably not be able to devote the many hours requisite for the research required to produce the results which our machinery can procure for them with a minimum of time and labour.

J. Y. W. MACALISTER.
(Secretary.)

The Royal Society of Medicine, 15 Cavendish Square, W., June 16.

Altruism in Animal Life.

YOUR Deal correspondent, Mr. Christopher Morse, has told you (p. 437) of an ablutinary caterpillar; let me tell you of life-saving "eels" in vinegar. I was examining the creatures with a microscope when one of them became stranded, owing to its having strayed into the shallower portion of the vinegar-drop, and there it wriggled the while the fluid grew shallower still. Just as it seemed on the point of giving its last expiring wriggle, what was my amazement to see three or four other "eels" make a dash from the deeper vinegar, and force themselves across the shallow to where lay their stranded comrade.

Then occurred the most singular thing it has ever been my lot to witness in the world of minute life. These tiny life-savers rushed with all the energy of desperation at their now quiescent comrade, and worked it slowly towards the deeper part of the fluid, and they reached it, too, in time to save their own and the other's life.

J. H. ELGIE.

72 Grange Avenue, Leeds.

Colours of Plasmodia of some Mycetoza.

FROM my experience in this part, I here note the colours of plasmodia of a few Mycetoza to supply the desiderata in the late Mr. Lister's "Monograph," London, 1894:—

<i>Physarum melleum</i> , Mass.	Yellow, then orange-yellow
<i>P. tenerum</i> , Rex.	Bright primrose-yellow
<i>P. crateriforme</i> , Petch, in litt. (Ceylon and Japan)	Dull ochreous
<i>P. gyrosom</i> , Rost.	Dingy ochrey-yellow, then dirty pink
<i>Arcyria insignis</i> , Kälchbr. and Cke.	Colourless, then milky-white
<i>Periclaena variabilis</i> , Rost.	Watery cinnamon

The following species have their plasmodia mostly of the colours as recorded by Mr. Lister, but at times of the subjoined colours:—

	Normally coloured	Occasionally coloured
<i>Physarum cinereum</i> , Pers.	Watery-white	Pale yellow
<i>Stemonitis splendens</i> , Rost., <i>B. Webberi</i> .	Creamy-white	Sulphur-yellow
<i>Lycogala miniatum</i> , Pers.	Rose-red	Bright yolk-yellow or milky-white

As regards the last-named species, Miss Gulielma Lister writes to me:—"Since my father's 'Monograph' was written we have several times had instances of the aethalia arising from a white or cream-coloured plasmodium."

Now a few words on the number of species of the Japanese Mycetoza. In the *Journal of Botany*, April, 1904, pp. 97-9, Mr. and Miss Lister noticed eighteen species collected by Mr. S. Kusano in Tokio, eleven of which had been enumerated in Prof. Matsumura's "Index Plantarum Japonicarum," published a few months previously in the same year. Since my return home from England in 1900, in order to keep my promise to Mr. George Murray, then keeper of the Botanical Department, Natural History Museum, I have sent for determination to Mr. and Miss Lister every characteristic specimen I could find in this province, which has resulted in the Japanese species of Mycetoza actually reaching a total number of eighty-six, including the two new species *Arcyria glauca*, Lister, and *Hemitrichia minor*, G. Lister, not to mention several new varieties and forms.

KUMAGUSU MINAKATA.

Tanabe, Kii, Japan, May 21.