

## ABSTRACTS

**Coloured Insecticides for Aphids.** *Scientific American* 1937. Mr. Moore concluded from his experiments that the aphids were attracted to the plants sprayed with bordeaux mixture because of increased intensity of light reflected from the sprayed surfaces. Spraying black coloured mixtures was found to be effective in reducing the infestation.

V. R.

**Frost Resisting South American Potatoes.** *Science* vol. 85. No. 2196. The All Union Institute of Plant Cultivation of U. S. S. R. was able to collect by sending a number of scientific research expeditions to South America, a large number cultivated and wild varieties of potatoes unknown to European countries, and a few of these new varieties were found to be resistant to *phytophthora*—the most dreaded disease of potatoes. One expedition was successful in spotting out a remarkable wild variety 'acaule' resisting frost of 17°F. The Institute has crossed these with local varieties and isolated from the progenies cultures breeding true to high yield and resistance to disease and cold. As a result, the problem of sowing the potato crop in the U. S. S. R. has now been considered as solved.

V. R.

## EXTRACTS

**The Phenomenon of Plant Growth.** From a series of experiments Dr. Johnston of the Smithsonian Institution, and Dr. Burkholder of Connecticut College have studied the complementary roles of light and darkness on plant growth. According to them, nightly sleep or something very like it, is as necessary to plants as to animals. It was found that strong sunlight was destructive to the *auxins*, which are the growth-promoting substances in plants, while in an equal period of darkness, the growth-promoting power was greater. The inactivation of the *auxins* varied with the length and intensity of illumination, and the species of the plant. The phenomenon of growth is most rapid in darkness. It may be concluded that light is required for the synthesis of the *auxins* in the growing tip of the plant, but, once formed, they are most effective as growth's activator in darkness. *Science*, March 19, 1937.

**Loans for purposes of irrigation work.** The following are the conditions under which loans are given in Rhodesia by the Government for the construction of soil conservation works.

(a) Interest at the rate of  $4\frac{1}{2}$  per cent. per annum, and, if desired, the interest charges can be funded with the loan for the initial three year period during which no repayments are necessary, and the whole sum thereafter repaid in annual instalments up to a maximum period of 17 years.

(b) The loan to be secured by notice to the Registrar of Deeds for registration against the title deeds of the property concerned, or on the personal security of two sureties, who must be holders of immovable property in Southern Rhodesia.

(c) One-fifth on the loan can be paid out as soon as the applicant is ready to start the works, and the balance is paid on the certificate of an engineer of the Irrigation Division that the works have been satisfactorily completed and are valued at the amount covered by the loan.

In addition to the above financial provision an arrangement has been made with the Premier Portland Cement Company (Rhodesia), Limited, whereby