AGRICULTURE

Synthetic Insecticides

To supplement war-scarce insect poisons formerly obtained from Japan or Jap-controlled countries, new insecticides have been developed.

➤ WHEN the Japanese war cut off imports of vegetable insect-control poisons from the Far East, America was not caught wholly unprepared. Government, state, university and industrial laboratories had been searching for synthetic and other substitutes for two decades, and had achieved at least partial success.

Prior to 1940 some dozen synthetic organic insecticides were made and tried. The cheap insecticide materials imported from Japan and other places delayed any of them from becoming widely used. The war situation now has changed the picture; substitutes must be used if the farms and Victory Gardens are to produce enough food to supply our needs.

Among the synthetic organic insecticides are those made from the organic thiocyanates, which are organic salts of cyanic acid. The insecticidal value of the vapors of these volatile thiocyanates was first discovered in the U. S. Department of Agriculture about 20 years ago. Later one of the commercial chemical companies devoted serious intensive study to the thiocyanates and developed a number of effective insect-control materials known commercially as Lethanes. During the past five or six years they have been tested thoroughly by state agricultural colleges.

These Lethane products are now reported to be the major ingredients in the household, livestock and industrial sprays used in this country. The Lethanes are used in agriculture in a mixture with a small amount of rotenone, the principal ingredient of the insecticide dusts used in the past. The supply of rotenone is not entirely cut off, as some is obtained from the American tropics.

Tests show that on insects for which rotenone dusts containing from 0.75% to 1% rotenone had been used in the past, dusts containing 2% Lethane and 0.4% rotenone were equally effective. With more Lethane, even less rotenone may be effectively used.

The same synthetic organic product combined with pyrethrum, another well-known imported insecticide ingredient, has been found effective in controlling such life as loopers on cabbages and leafhoppers on beans and many other vegetables. In the dusts, the Lethanes with rotenone or pyrethrum are mixed with a neutral inert filler such as clay or talc.

Science News Letter, July 10, 1943

MEDICINE

Vitamin A Not a Real Aid In Correcting Color Vision

➤ VITAMIN A failed to produce any significant improvement in the color vision of 58 R.O.T.C. cadets in experiments conducted in Baton Rouge, La., by Dr. J. H. Elder of Louisiana State University. The cadets had various degrees of weakness in color vision.

The vitamin A was given the cadets in capsules which they were required to swallow at a dispensing station so that there could be no possible doubt that they took the vitamin at the prescribed intervals and in the specified doses, which were 25,000 international units daily for eight weeks.

"It seems improbable," Dr. Elder commented in reporting his results (*Science*, June 18), "that administration of the vitamin for longer periods of time would change this result, although observations are being continued on several subjects."

This study, Dr. Elder explained, does not entirely dispose of the possibility that a few men, perhaps with minor color vision defects, may improve slightly, but the number who could use vitamin A for this purpose is so small as to be negligible.

In a preliminary study by Dr. Elder of 16 students with defective color vision, who had been unable to pass tests of the Army Air Corps and who were quite anxious to do so, two were able after taking vitamin A to pass the tests. These two were men with very slight defects.

Science News Letter, July 10, 1943

PHARMACY

B_1 Improves Color Vision; Vitamin A Role Confirmed

➤ VITAMIN B_1 improves color vision more than twenty per cent in men rejected by the armed forces for color blindness, research at the Philadelphia College of Pharmacy and Science indicated.

The experiments reported by Drs. Donald P. LeGalley and J. W. E. Harrisson *(American Journal of Pharmacy, March)* also confirm a report by other scientists that vitamin A produces a like improvement.

Still another vitamin, B_2 or riboflavin, was tried on the color blind men but it failed completely, producing a negligible improvement of less than three per cent.

The experiments are evidently the first indication that vitamin B_1 (thiamin) can