TABLE II

ANTIHELMINTHIC ACTIVITY ON ASCARIS LUMBRICOIDES FROM INTESTINE OF THE PIG. (pH 5, BUFFERED WITH CITRIC ACID AND DISODIC PHOSPHATE, AT 40° C)

Enzyme concentration	2 hours	4 hours	8 hours	24 hours
1 per cent.	An ulcer attaining body cavity	Partial digestion	Intense digestion	Total digestion
0.5 " "	Several ulcers	Incipient digestion	Partial digestion	Total digestion
0.1 " "	No change	Several ulcers	Incipient digestion	Partial digestion
0.05 " "	No change	No change	Several ulcers	Partial digestion

The fresh latex and dry weight relation is 30 per cent., while in papain it is only 20 per cent.

Pileus mexicanus is quite abundant in Mexican tropical regions, making its industrialization possible, to compete with papain. Methodic breeding of the plant would be an important source of the enzyme. We propose the name of "mexicain" for this enzyme.

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FUNGICIDAL VALUE OF THE SALICYLATES

THE problem of finding suitable substitutes for copper fungicides is becoming increasingly important. In recent discussions, prominent mention has been made of such organic compounds as phenothiazine, tetramethyl thiouram disulfide and ferric dimethyl dithio carbamate. However, one of the major needs for copper fungicides is in the control of various downy mildew diseases (caused by species of *Phytopthora, Peronospora* and *Pseudoperonospora*), and information as to possible copper substitutes in this field appears to be lacking. During the past ten years, the Bureau of Plant Industry, in cooperation with the state experiment stations of Georgia, South Carolina, North Carolina and Maryland, has conducted an extensive search for sprays effective against the blue mold or downy mildew disease of tobacco. The organic compounds mentioned above have been tested along with numerous others. Most promising results have been obtained with the salicylates, practically all of which were more or less effective. The best of these compounds so far tested has been bismuth subsalicylate, used at the rate of 1½ pounds, plus 1 pound of Vatsol O.T.C. (sodium dioctyl sulfosuccinate) in 100 gallons of water. With the aid of the wetting agent, the subsalicylate makes a quick and stable suspension, and the spray adheres very well to tobacco leaves. This spray used against blue mold has given excellent control, with strong residual protection after spraying was discontinued, and no plant injury. It has been superior to the regular copper oxide-oil in all three respects, and the copper oxide-oil has, in turn, been much superior to bordeaux mixture. The second best of the salicylate mixtures so far developed has been benzyl salicylate, one fourth pound dissolved in 1 gallon of cottonseed or soybean oil, emulsified and diluted to 100 gallons. This mixture has been very effective, but has occasionally caused plant retardation, and it does not have quite the residual protection of the previous. Salicylic acid and zinc salicylate at the rate of one half pound dissolved in 1 gallon oil, emulsified and diluted to 100 gallons, have been effective fungicides, but likely to cause plant injury. Materials showing some promise are butoxyethyl salicylate, dinitrosalicylic acid and salicyl salicylic acid, all at the one half pound rate in oil. So far, most of the salicylates do not appear to be critical materials, but difficulties regarding availability and price may be expected. It would seem most important to find out as soon as possible what fungicides can be used against each specific disease, and it would not be surprising if very much improved spray treatments would ultimately result.

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