made according to the U. S. P. method, the other with acetic acid. Each of these samples were diluted to ten volumes with physiological salt solution and injected into guinea pigs, with the following results:

Pig No. 9, Weight 280 gm.
Injected—1 cc. of dilution (0.1 cc. of acetic fluidextract).
Result—No action.

Pig No. 10, Weight 309 gm.
Injected—1.5 cc. of dilution (0.15 cc. of acetic fluidextract).
Result—No action.

Pig No. 11, Weight 233 gm.
Injected—2 cc. of dilution (0.2 cc. of acetic fluidextract).
Result—No action.

Pig No. 12, Weight 275 gm.
Injected—1 cc. of dilution (0.1 cc. of Fluidextract of Digitalis, U. S. P.)
Result—Salivation but pig did not die.

Pig No. 13, Weight 305 gm.
Injected—1.5 cc. of dilution (0.15 cc. of Fluidextract of Digitalis, U. S. P., made from leaves from store.)
Result—Convulsions, but pig did not die till next morning.

Pig No. 14, Weight 325 gm.
Injected—2 cc. of dilution (0.2 cc. of Fluidextract of Digitalis, U. S. P.)
Result—Severe convulsions. Dead in 30 minutes.

It may be readily seen from the results above that the acetic fluidextract of digitalis was markedly inferior in physiological activity to the U. S. P. product made from the same leaves.

In order to determine if the acetic fluidextract had any physiological activity, calcium carbonate and magnesium carbonate were shaken with a portion of the acetic fluid and after most of the effervescence had ceased the liquid was filtered. 1 cc. of this filtrate was now injected into a guinea pig which weighed 320 gm. No convulsions were noticed. Even salivation, frequent defecation and urination were not observed. The pig died after two days, but post mortem did not show heart in firm systole or blood vessels engorged.

..*Summary and Conclusion.*

The physiological activity of acetic fluidextract of digitalis is undoubtedly markedly less than the fluidextract made by U. S. P. method. In all probability the glucosides are promptly broken down by the acetic acid.

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A RECENT ADULTERANT OF MANACA.

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The supply of crude manaca on the drug markets of the United States, at the present time, consists largely of an unidentified adulterant or substitute. This form (Fig. II) has recently been noted in all samples examined in the proportions of from seventy-six to one hundred percent. It is claimed by importers

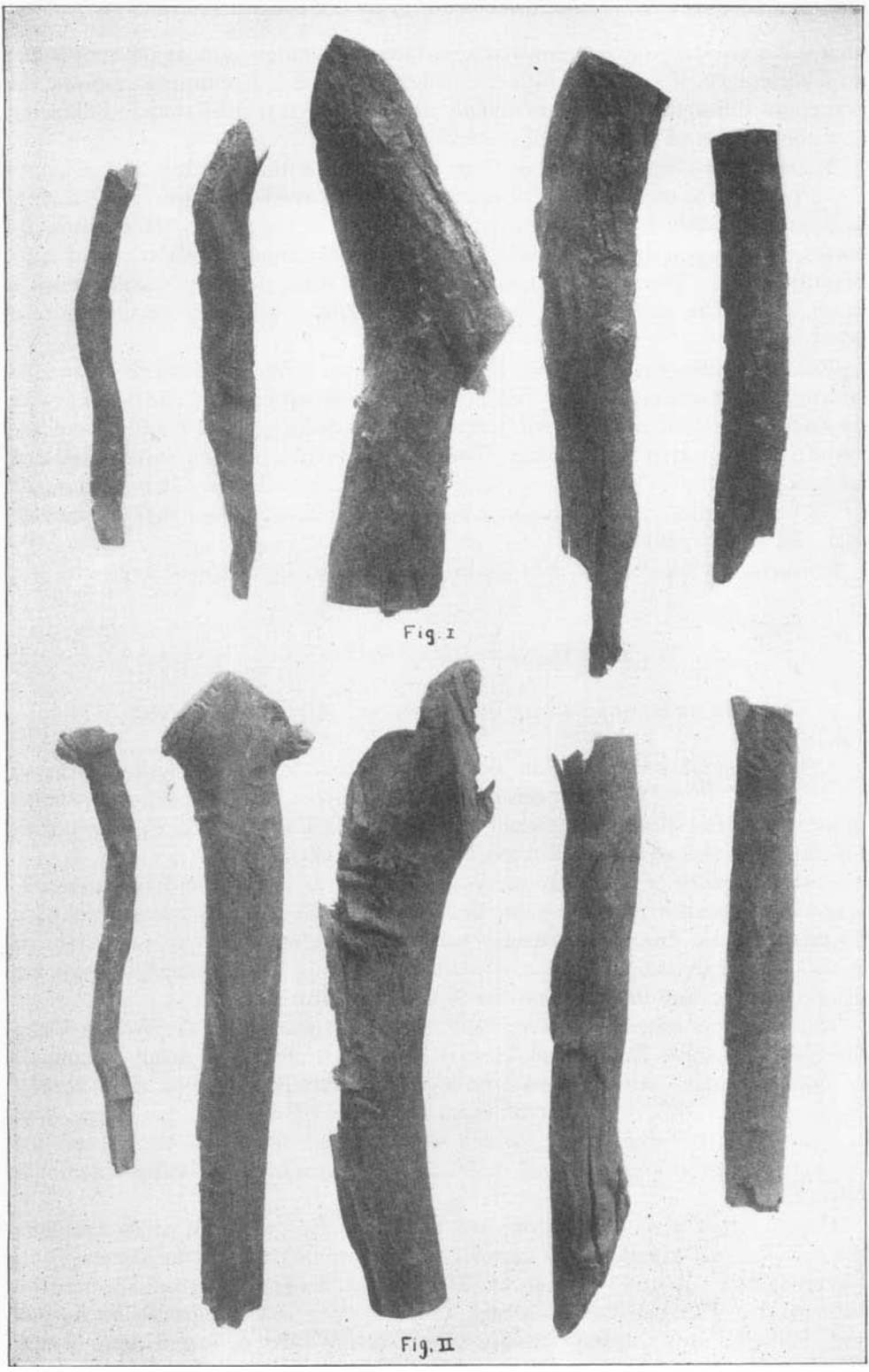

Fig. I. Manaca Root. Fig. II. Substitute.

that this substitute is genuine manaca, and that the lighter color of the root is due to a difference of soils in which the drug grows. No significance is given the structural differences which are equally as manifest as that of color. Following is a comparison of manaca with the root noted:

Manaca root (Fig. I) varies in thickness from five to thirty mm. and in length from one dm. to one meter. Externally it is dark reddish-brown. The bark is thin, usually scaly or flaky, and adheres tightly to the wood. It is distinctly bitter. The wood is tough, hard, and of a reddish-yellow color. It is only slightly bitter. The wood is porous, the pores being scarcely visible under a hand lens. The medullary rays are few in number and only visible under a hand lens.

The substitute (Fig. II) varies in thickness from seven to twenty-five mm. and in length from one to four dm. Externally it is yellowish gray. The bark is twice as thick as that of manaca, not scaly or flaky, and separates readily from the wood. It is practically tasteless. The wood is fragile, slightly softer than that of manaca, and of a pale yellow color. The wood is tasteless. It is porous, the pores being distinctly visible under a hand lens. The medullary rays are numerous, and plainly visible.

DEPARTMENT OF BOTANY, ELI LILLY & COMPANY, Indianapolis, Ind.

SANTONINLESS SANTONICA.

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A specimen of santonica was recently submitted for examination and assay which, while it corresponds closely in appearance with the official santonica in most respects, showed some abnormal characteristics, and upon further examination was found to contain not more than traces of santonin.

The appearance of the drug was very favorable as to color and freshness. It was rather greener than the santonica commonly seen, and possessed an odor slightly different from the ordinary santonica odor and strongly suggestive of tansy. The microscopic examination showed it to be more tomentose than the drug usually is, and the oil glands were of a greenish color.

The drug was assayed by several methods. The method of the British Pharmacoposia of 1888, Katz's, and Thaeter's methods, all gave a small amount of a resinous residue which showed no signs of crystallizing, even after several days' standing, while several commercial specimens of the drug, one seven years old and the other much older, which were assayed simultaneously to test the accuracy of the method, showed 4.18 and 1.71 percent of crystallized santonin respectively.

Thinking that perhaps the drug had been partially exhausted of its santonin, the ether extract in the several samples was determined, and in the sample yielding no santonin it was found to be 18.6 percent, a figure intermediate between both of the other samples examined, and therefore to be regarded as normal and as a proof of the impossibility of its having been tampered with in any way, as by being exhausted.