

add sufficient water to make 1000 cc. Allow to stand in a tightly closed container for 24 hours and filter.

This solution when first mixed is perfectly clear if a reagent grade of boric acid is used. Commercial U. S. P. boric acid frequently causes a slight cloudiness. However, upon standing for a day or so, a slight cloudiness always develops. Apparently this trace of turbidity has no effect on the thymol and chlorthymol, as assays on the filtered and unfiltered solutions show identical results. The aroma and taste of the new antiseptic solution differ slightly from the present official solution and the acidity and pungency is notably less. It is the concensus of opinion in this laboratory that the odor and taste are more pleasant than those of the official article.

The antiseptic power of the proposed preparation is higher than that of the official preparation. It kills the test organism, under the conditions of the test, in one minute instead of five minutes as allowed by the test. Even in half strength it will kill the test organism in one minute.

#### SUMMARY.

1. The limits on the residues from the boric acid obtained by the evaporation and the ignition tests of N. F. VI are not fully satisfactory.
2. An adaptation of the tumeric test for boric acid serves for the qualitative and quantitative determination of boric acid in Liquor Antisepticus.
3. An incompatibility that occurs during the preparation of Liquor Antisepticus is apparently physical in nature and occurs when eucalyptol above 0.02 per cent is added to the aqueous-alcoholic solution of thymol or chlorthymol or both.
4. The A. O. A. C. tentative assay for thymol has been used on solutions of thymol, and adapted to solutions of chlorthymol and Liquor Antisepticus.
5. A formula for Liquor Antisepticus which is unchanged from the official formula, except in the proportion of certain of the ingredients, is offered. It presents no incompatibilities, is more highly antiseptic than the present official solution, is not so acid or pungent in taste, yet preserves the same aroma, is less difficult to compound and is less expensive.

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#### A STUDY OF DATURA STRAMONIUM.\*

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*Datura Stramonium* Linné is one of the two well-known species of *Datura* found in Pennsylvania. Within the limits of the city of Philadelphia it frequently thrives in impoverished soil and even where conditions are most unfavorable for the development of many uncultivated plants, *Stramonium* frequently grows to a height of two meters, produces large stems and rank foliage and otherwise exhibits most of the normal vegetative characteristics.

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Studies showing the effects of soil composition, fertilizers and methods of collection have been reported in recent years. Maurin (1) reported that variation in soil composition produced a variation in the growth of plants and the production of alkaloids.

This paper contains a report of a study conducted to determine (1) if an extremely poor environment produced a marked decrease in the alkaloidal content of *Datura Stramonium* and (2) the distribution of the alkaloids in the plant.

All material used in the study was collected from uncultivated plants which grew within the city of Philadelphia in vacant lots where *Stramonium* had been established for a number of years. In every instance the plants grew in soil which was unusually poor since it consisted largely of debris from demolished buildings. The plants attained an average height of 1.5 meters, produced rank foliage and an abundance of fruits and seeds. For several years previous to 1935, when the first material was collected, the areas which supplied the material for this study were carefully observed and at no time was there any indication of retarded plant growth due to the poor environment.

All plant parts used in the study except fruits and seeds were collected in the early part of September of 1935 and 1936. Parts were carefully separated at the time of collection and rapidly dried in well-ventilated trays. Fruits and seeds were collected in October, before frost, when the fruits began to dehisce. All specimens were reduced to a fine powder and preserved in air-tight containers until they were extracted.

#### EXPERIMENTAL.

Ten grams of each specimen, in fine powder, were extracted by percolation and assayed by the process prescribed in the U. S. P. XI.

TABLE I.—RESULTS.

Plant Part or Parts.	Season Collected.	Sample.	Per Cent Total Alkaloids.
Leaves and flowering tops	1935	1	0.237
	1935	2	0.312
	1935	3	0.310
	1935	4	0.444
Leaf blades and petioles	1935	1	0.278
	1935	2	0.301
	1935	3	0.301
	1935	4	0.295
	1935	5	0.303
	1935	6	0.462
Leaf blades more than 25 mm. in length	1935	1	0.165
	1935	2	0.281
	1935	3	0.239
	1935	4	0.237
	1936	5	0.160
	1936	6	0.160
	1936	7	0.156
	1936	8	0.144
	1936	9	0.164
	1936	10	0.144
	1936	11	0.151
	1936	12	0.191
	1936	13	0.160

TABLE I.—(Continued from page 473.)

Leaf blades less than 25 mm. in length	1935	1	0.420
	1936	2	0.391
	1936	3	0.290
	1936	4	0.340
Petioles from large leaves	1936	1	0.359
	1936	2	0.791
	1936	3	0.551
	1936	4	0.705
	1936	5	0.791
	1936	6	0.803
Stems less than 8 mm. in diameter	1935	1	0.110
	1935	2	0.093
Stems more than 8 mm. in diameter	1935	1	0.029
	1935	2	0.109
	1935	3	0.104
	1935	4	0.127
	1935	5	0.144
	1936	6	0.179
	1936	7	0.145
	1936	8	0.202
Flowers	1936	1	1.040
Fruits not including seeds	1935	1	0.101
	1935	2	0.080
	1935	3	0.120
	1936	4	0.060
	1936	5	0.075
Seeds	1935	1	0.422
	1935	2	0.416
	1935	3	0.537
	1935	4	0.376
	1935	5	0.393
	1935	6	0.434
	1935	7	0.514
	1935	8	0.451
	1935	9	0.434
	1935	10	0.434

## CONCLUSION.

Environment considered entirely unsatisfactory for the normal development of most plants did not appear to retard the growth of *Stramonium* and the production of alkaloids was not materially affected.

## REFERENCE.

- (1) Maurin, *Bull. sci. pharmacol.*, 32, 75 (1925).
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