

PARKE-DAVIS
PARKE, DAVIS & COMPANY
DETROIT, MICHIGAN 48232 U.S.A.

RESEARCH DIVISION
PRODUCT DEVELOPMENT DEPARTMENT

June 19, 1968

Dear Dr. Mikuriya:

Your letter of May 21 inquiring further into the role that Parke-Davis played in the early teens and twenties with respect to the stabilization of cannabis extracts is at hand. Fragmentary information has come to our attention by virtue of a recent visit to Detroit from his home in Florida of one of the individuals active on our staff at that time.

This individual informs us that Parke, Davis & Company and Eli Lilly Company did cooperate in the development of a standard cannabis preparation in the form of a fluid extract, a tincture, a solid extract, and a powdered extract. We originally used Cannabis Indica but later standardized on a strain of Cannabis Americana which we grew at our biological farm, Parkedale, near Rochester, Michigan.

Our retired employee gave us the following description, as best he could reconstruct it from memory, of the standardization procedure used in experimental animals at that time. The test method is as follows:

- 1. Select medium-sized, short haired dogs weighing less than 15 kilos, of fair degree of intelligence, preferably fox terriers. Do not feed for 12 hours prior to the test.*
- 2. Determine susceptibility of the dogs by administration of minimum dose of standard preparation. The standard preparation is obtained from the Food & Drug Control Laboratory at Washington.*

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3. *The dose of sample to be tested is determined by multiplication of the weight of the dog by the standard dose per unit weight.*
4. *Dose is administered in capsule.*
5. *The results of administration are apparent in about one hour. Muscular incoordination and drowsiness indicate activity.*
6. *The activity of the sample is dependent upon the degree of reaction and susceptibility of the dog. Do not use the dog oftener than once every three days.*
7. *The standard dose for various preparations is as follows:*

<i>Drug (as a fluid extract)</i>	<i>0.1 gm. per kilo gm.</i>
<i>Fluid extract</i>	<i>0.1 cc. per kilo gm.</i>
<i>Tincture</i>	<i>1.0 cc. per kilo gm.</i>
<i>Solid extract</i>	<i>4.0 mg. per kilo</i>
<i>Powdered extract</i>	<i>40.0 mg. per kilo</i>
8. *Retest the sample following adjustment on the basis of the first assay.*

Our interest in standardizing cannabis extracts was discontinued in 1938 when the "New" Drug Regulations called for the proof of safety of agents distributed for drug purposes. With this intermediate clarification of the description of drug, cannabis extracts fell into disuse by the medical profession since they provided no medical need that was not available in a more carefully standardized form from the more advanced work on natural alkaloids.

Since the current New Drug Regulations require both safety and efficacy to be clearly demonstrated in the hands of qualified investigators, it seems even more remote that cannabis might find a useful role in human medicine.

*Sincerely yours,
L. M. Wheeler, Ph.D., Director
Department of Product Development*