and rate of flow in proportion to the weight of the animal was held to be important, if satisfactory results were to be obtained. The use of the cat was held to possess distinct advantages in that it afforded the analyst the opportunity of recording the exact action of the preparation upon the heart. It was held to be a possibility that further work might result in a method for measuring the total therapeutic activity, as well as the toxicity.

Results were submitted showing that the first year's growth digitalis leaves as produced at the University of Minnesota during 1922 were the equal in every way with respect to therapeutic value to leaves collected from second year's growth, provided the long petioles which frequently develop during the first year's growth were not included in the drug. The petioles, it was pointed out, represented 40 per cent. of the weight of the entire dried leaf. The general practice is not to collect these long leaf stalks. The leaf stalks or petioles were stated to be only about one-quarter as rich in therapeutic constituents as the lamina.

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Experimental goitre and iodin in natural waters in relation to distribution of goitre.

By J. F. McCLENDON and AGNES WILLIAMS.

[*From the Laboratory of Physiological Chemistry, University of Minnesota, Minneapolis, Minnesota.*]

White rats of 30 gram weight were placed on a diet containing about or less than .006 milligram of iodin in 50 grams of dry foodstuff in addition to distilled water. Controls were placed on the same diet except for one day a week when they drank water containing .01 per cent. iodin. At the end of about three months those receiving the iodin had thyroid glands one-half to two-thirds the weight of those receiving no iodin.

The United States is divided into four zones based on the

number of goiters too large for wearing military collars per 1,000 drafted men. The amount in parts per billion of iodin in drinking water is also given:

ZONE I—Goitre, 1-30. Iodin, 0.1-1. Washington, Oregon, Wyoming, Montana, parts of Utah, Minnesota, Wisconsin, and Michigan.

ZONE II—Goitre, 5-15. Iodin, .015-1.2. Nevada, Colorado, North Dakota, Iowa, Ohio, Indiana, West Virginia, parts of California, Utah, South Dakota, Minnesota, Wisconsin, Michigan, Pennsylvania.

ZONE III—Goitre, 1-5. Iodin, .06-9. Nebraska, Kansas, Missouri, Illinois, Kentucky, Tennessee, parts of California, Arizona, New Mexico, South Dakota, South Carolina, North Carolina, Virginia, Maryland, Pennsylvania, New York.

ZONE IV—Goitre, 0.1. Iodin, 1.4-9.7. Texas Indian Territory, Arkansas, Louisiana, Mississippi, Georgia, Alabama, Florida, parts of Arizona, New Mexico, South Carolina, and a strip along the Atlantic seaboard.

These zones run from east to west but are diverted southward in the mountainous regions and northward in the Great Plains area which contained a large salt lake centering in Kansas during the Permian period. The goiter-free southern states were submerged beneath the sea even as late as the Pliocene period.

In order to determine the iodin in drinking water quantitatively very large samples are necessary, in fact the smallest sample from Zone 1 must be at least 25 gallons; Zone II, 15 gallons; Zone III, 10 gallons; Zone IV, 5 gallons. Even with such sized samples we often fail to find sufficient iodin for strictly quantitative analysis. It is hoped that interested persons will assist in this public health measure by forwarding samples, in return for which we will send them the analysis. Place about a teaspoonful of soda in a large dishpan, add water and evaporate until the required total volume has been added and reduced to about one liter, filter into a beaker and evaporate to as small volume as practicable and transfer to an evaporating dish; evaporate to dryness without burning; scrape out the dry sample and send it to us for analysis.