ington (*1*) to split the diphenyl ether linkage would result in the simultaneous elimination of the iodine. A more fruitful approach would be study of the rates of exchange of the compounds 3,5-diiodothyronine and 3′,5′-diiodothyronine with I^{131}.

A convenient method of preparing thyroxine with I^{131} of identical specific activity in all four positions is through the *in vitro* iodination of certain tyrosine-containing proteins. We have prepared radiothyroxine in this way, using the procedures described by Reineke and Turner (*7*). Fifty gm of casein was iodinated using 12 gm of powdered iodine containing 10 mc of I^{131}. After hydrolysis of the iodinated casein with barium hydroxide, *dl*-thyroxine with an activity of about 10^4 disintegrations/μg/min was isolated in the usual way.

Another possible method of labeling all iodine atoms in thyroxine is the direct *in vitro* conversion of diiodotyrosine to thyroxine, as first reported by von Mutzenbecher (*6*). The low yields of thyroxine obtained make this method less desirable for the preparation of radiothyroxine than the other methods discussed.

The ease of preparation of radiothyroxine of high specific activity should facilitate further research into the metabolism of thyroxine administered at physiological levels.

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A Convenient Plant Pollinating Kit

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During a series of hand-pollination experiments on the cherimoya considerable inconvenience and loss of time were experienced in preparing plant tags, transferring pollen, and entering field data in the notebook while using ordinary equipment. When large numbers of detailed, individually marked pollinations were made, considerable lost motion and time resulted from reaching into the shirt or trouser pocket for tags and pencil, picking up the pencil, which was dropped occasionally, transferring the pollen vials from pocket to hand, and finding some place to rest the field notebook while other operations were under way. Such losses were greatly accentuated when working on a ladder high in a tree. It was found very convenient to have all necessary "bookkeeping" equipment and other important experimental materials available and securely attached to a portable shelf or kit suspended by a cord around the neck.

The kit (Fig. 1) consists of a breastboard 6″ × 8″ and a shelf 6″ × 6″ made of ¼″ plywood. The breastboard provides stability for the apparatus and prevents twisting and

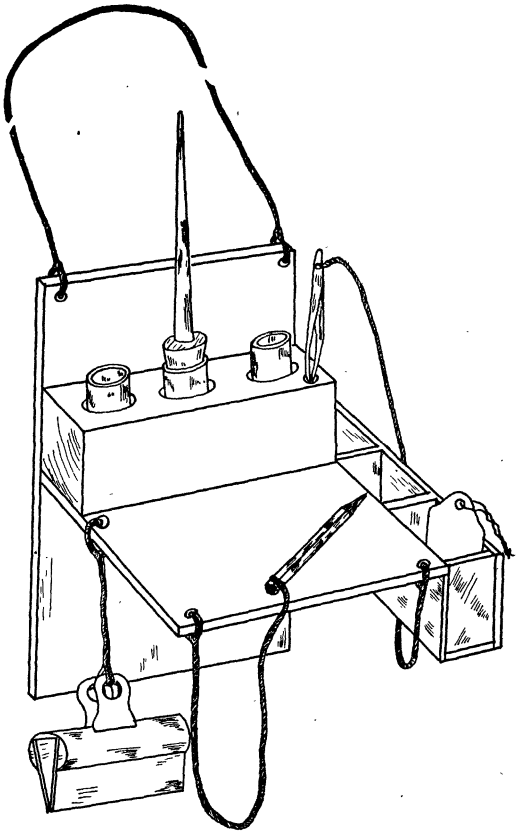

Fig. 1

fouling when working among tree branches. The shelf functions as a small desk so that a convenient and smooth writing surface is available at all times. A small block 1½″ × 1½″ × 6″ has holes drilled to receive small vials of pollen. A series of small wooden pockets are attached to one side of the desk to hold paper or wooden plant tags. Small holes drilled at the desk corners provide for attachment of a pencil, forceps, and a large spring clip from which the field notebook is suspended. The brush used for pollination work is mounted in a cork and kept in one of the pollen vials.

The compactness and convenience of the kit is self-evident. All items except the plant tags and brush are secured to the desk and cannot be dropped. When suspended from a cord passed around the neck, the kit is always in a vertical position and immediately in front of the operator in whatever position he may be. It also allows the worker's hands to be free at all times between operations.

It is thought that the basic idea may be of interest to those who have to make detailed recordings of specific pollination or other similar operations in the field.