liquids and dialysis contained a greater degree of skin-reacting activity per unit of dissolved material than did the original extracts from which the purified extracts were processed.

The extract purified by fractionation and refractionation with organic liquids was further purified by treating it with high concentrations of soluble sulfates such as ammonium sulfate, sodium sulfate and zinc sulfate. The fraction precipitated from concentrated solutions of these sulfate salts contains a very high degree of specific allergic activity. It produces uniformly strong positive scratch-test reactions in house-dust sensitive individuals in concentrations of 0.5 per cent.; specific intracutaneous tests are obtained with this extract in dilutions of 1/50,000 to 1/5,000,000.

Chemical analysis of all the fractions, the allergically active as well as the allergically inert, failed to show any significant difference in nitrogen or reducing sugar content.

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A LABOR-SAVING TECHNIQUE FOR LEAF SAMPLES IN HISTOLOGICAL WORK

IN the course of various studies on plant leaves it is often necessary to employ extensive sampling for histological material. The resulting collection of samples may come from various parts of the same leaf or from similar portions of different leaves. In either case the accurate recording of the source of each sample, as well as the maintenance of its identity throughout the stages in its preparation and storage before sectioning, is greatly facilitated by the use of India ink index numbers on the sample itself and upon the portion of leaf adjacent to it. The latter is then pressed, dried and kept as a record of the sample origin, or left in its original position on the plant when further samples are to be collected at a later stage in the development of the same leaf.

The general procedure is as follows: Duplicate numbers in India ink are put on the fresh leaves in the region from which the sample is to be taken. (Higgins waterproof black American India ink was used with satisfactory results.) A disc-shaped portion of the leaf including one of these numbers is punched out to furnish the sample, and the other number is left to record its source. A crow-quill pen is most satisfactory for producing small numbers without injury to the leaf tissues. With a clean pen no difficulty is encountered in numbering the leaves provided their surface is free of water. Care must be taken, however, that no pressure is applied by the pen to the tissues beneath, and that the numbers are dry before the samples are placed in the fixing fluid.

Following this technique the writer has fixed and preserved as many as fifteen leaf samples, each $\frac{1}{4}$ inch in diameter, in a single 4-dram vial. The use of fourteen vials, index tabs and record entries in each group of fifteen samples was thus avoided. These sections can in turn be carried through dehydration and embedding as a unit, further avoiding fourteen out of every fifteen separate operations that would otherwise be necessary in these steps. In the process of embedding, the tissue samples are arranged in the warm paraffin so that they do not overlap one another, and so that the sides of the samples bearing the numbers face the lower side of the block, being thus legible through the thin paraffin layer. The resulting single paraffin block containing all the samples from a given leaf or plant has been found most convenient for storage and record-keeping purposes until sectioning is begun. Pressed and dried shoots bearing the leaves from which the samples were punched furnished a simple but excellent record of the sample origin.

The ink numbers are not dissolved or faded by chrom-acetic or by formalin-acetic-alcohol fixatives, or by any grade of alcohol in the ethyl or butyl alcohol series. The numbers withstand equally well the treatment of the samples with such clearing agents as dioxan and chloral hydrate. The numbered samples are clearly visible in the paraffin block permitting the ready location of any one of them desired for sectioning. The occasional necessity of sectioning directly through the numbers does not impose any restrictions on the use of the technique.

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