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COLLECTING, PRESSING, DRYING AND
MOUNTING OF PLANT MATERIAL

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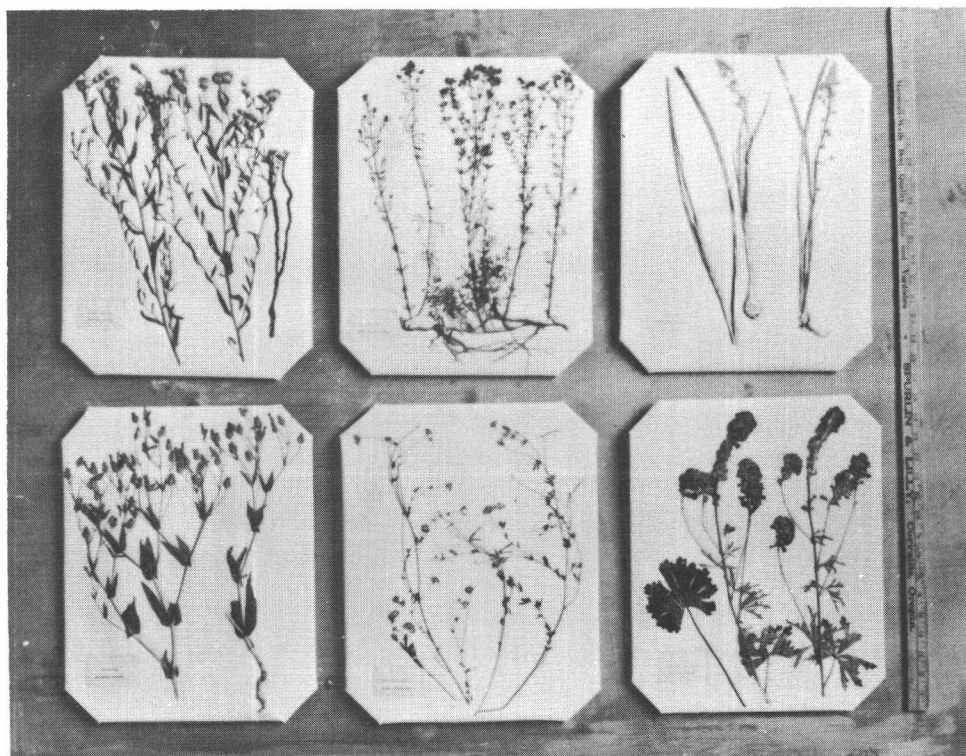
COLLECTING, PRESSING, DRYING, AND MOUNTING

OF PLANT MATERIAL

by

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WEED MOUNTS

OREGON STATE AGRICULTURAL COLLEGE

EXTENSION SERVICE

Corvallis, Oregon

COLLECTING, PRESSING, DRYING, AND MOUNTING
OF PLANT MATERIAL

At the request of numerous individuals this mimeograph has been written stating experiences in preparing exhibits of pressed plant material. Nearly 3,000 weed specimens have been collected, pressed, and dried. Over a thousand of these have been mounted. Many difficulties arose which had to be overcome, and methods were changed several times. Some of our mistakes were costly with such a large number of exhibits, so it is with the hope of saving others from making many of the same mistakes that we are passing on what we have learned and hope it may be of some value to others desiring to make similar exhibits.

Plans were made in 1937 for an enlarged state-wide organized program aimed at controlling weeds which we had and aimed to prevent others from becoming established within the state. It was evident that the farmers did not know many of the serious weeds. The first job of the Extension Service, then, was to show specimens of these different weeds and inform the farmers of their seriousness and of their method of introduction and spread. It was felt that after the people of the state became familiar with the different weeds and their seriousness, they would become more interested in controlling them.

Since it was impossible to have growing specimens all year round in a handy form for transporting to farmers' meetings, we were faced with the problem of making up a large number of mounted pressed specimens which would be inexpensive and as permanent as possible.

The following paragraphs contain an explanation of how the weeds were collected, pressed, dried, and mounted. It is not pretended that this system cannot be improved upon, but anyone who has not had any experience along this line may find some suggestions which will be helpful in carrying out a similar undertaking.

COLLECTING THE MATERIAL

The specimens should be collected in the medium early bloom stage; otherwise some seed will probably be produced on parts of the plant. After mounting, the seed containers may break and allow seed to escape. The specimens should be put into a press immediately after cutting and dried as soon as possible. If they are not handled quickly, especially the specimens which have a high moisture content, they will lose their natural color or may mold. It is a good practice to collect more material than needed since there is bound to be some loss.

PRESSING

A satisfactory press can be made by using two sheets of $\frac{1}{4}$ -inch, 3-ply veneer lumber about 14 x 20 inches, for the outsides. Three strips should be nailed onto the veneer, one at each end and one in the middle for support. The fresh specimen should be laid between newspapers. Two sheets of regular blotting paper should be placed on either side of the

newspapers. The arrangement from the outside then would be: (1) the wood binder, (2) two sheets of blotting paper, (3) specimen between newspapers, (4) two sheets of blotting paper, (5) specimen between newspapers, (6) two sheets of blotting paper, etc. Two suitcase straps are satisfactory for putting around a press and holding it tightly together.

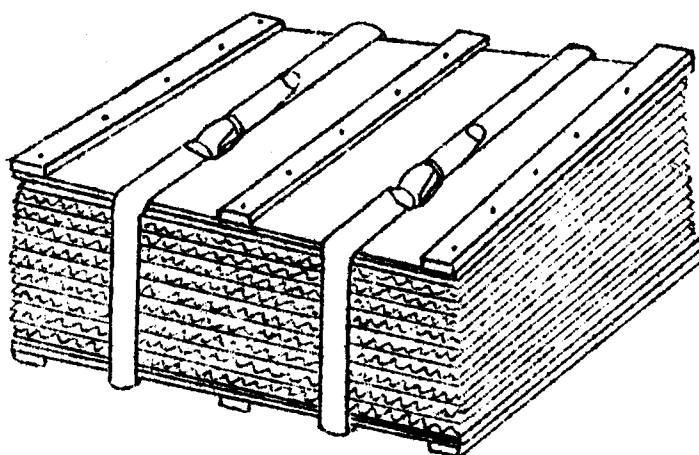


DIAGRAM OF HOMEMADE PRESS

DRYING

In order to preserve the color of the plant it is often necessary to dry it quickly. If left in the press the blotting paper must be changed often.

A satisfactory method of drying is to put corrugated cardboards between the blotters and either put the press in an electric drier, as shown in the drawing on page 3, or get a good heat in the kitchen oven, then brace the door open to about a 30° angle and lay the press on it. The corrugation in the cardboards should run crosswise so that heat will circulate through and carry the moist air off. A few hours on the stove or 24 hours with the electric drier will be adequate to dry most specimens. With the corrugated boards in the press, the arrangement would be: (1) wooden outside, (2) corrugated board, (3) one blotter, (4) specimen between newspapers, (5) one blotter, (6) corrugated board, (7) one blotter, (8) specimen between newspapers, (9) one blotter, etc.

After the specimens have dried, they can be handled and piled up in the newspapers. The corrugated separators can be made from either old cardboard boxes or can be purchased at about 4¢ apiece.

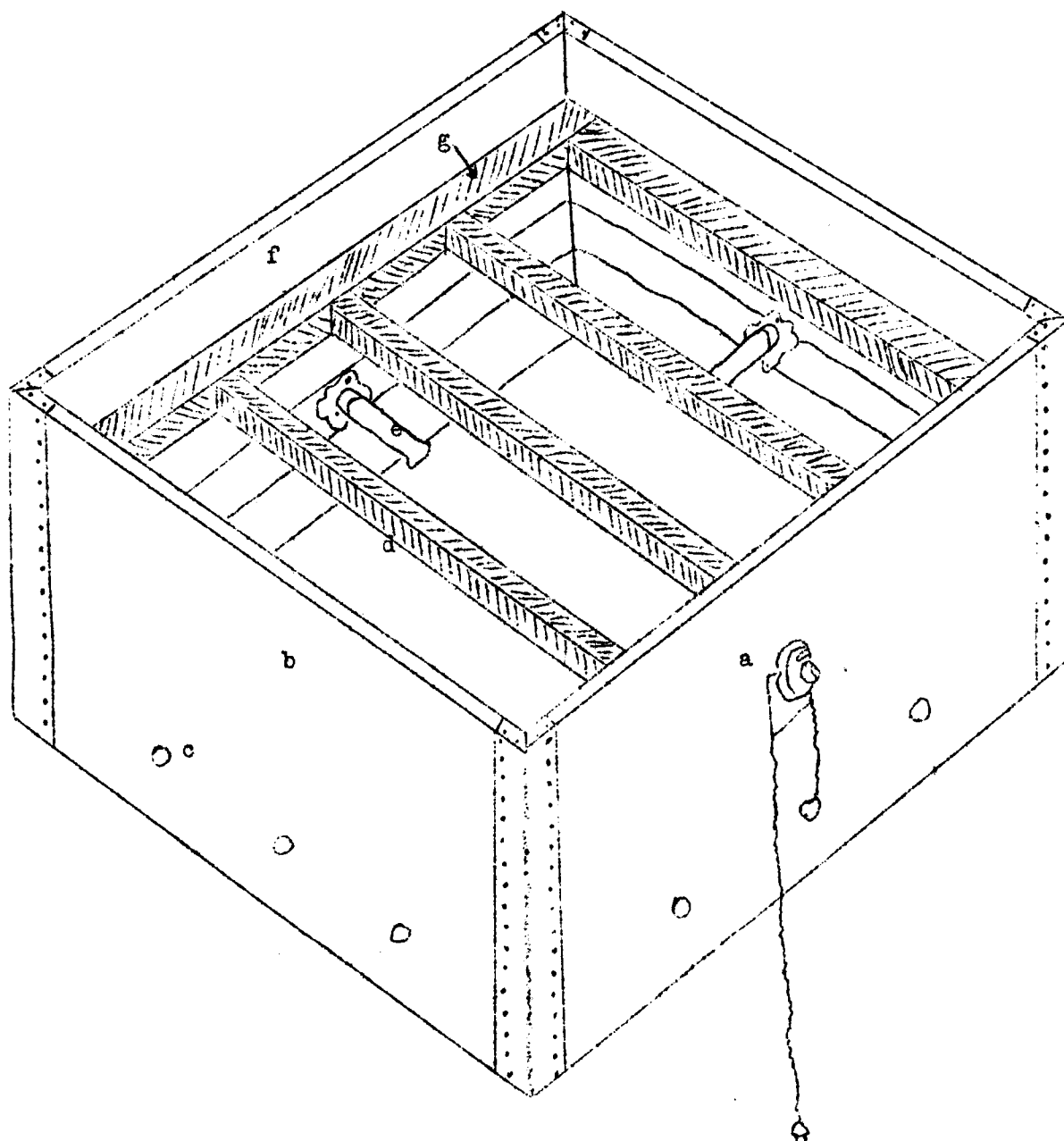


DIAGRAM OF ELECTRIC PLANT DRIER

- a. Switch.
- b. Side 11" by 19½".
- c. Ventilation holes.
- d. Cross pieces of rack 1" by 1".

- e. Heating element.
- f. Back 21½" long with rack 2½" from top.
- g. Frame of rack 1" by 2".

MOUNTING

After trying many different systems of mounting the plants, we finally have standardized on the following method.

Corrugated cardboard cut 12 $\frac{1}{2}$ " x 16" is used for the support. This size cardboard does not tend to bow over a period of time as do larger pieces. The corners are cut off to improve the appearance.

Long fiber hospital cotton is laid on top of the corrugated cardboard and is used as a background for the specimen. The cotton should be cut so as to extend about one-half inch beyond the sides and ends of the cardboard. This will make it possible to roll it around and cover up the edges of the cardboard. Do not allow more than just enough cotton to cover the edge of the cardboard on the clipped corners. Otherwise it is difficult to hold the celluloid down when it is folded over. This cotton can be purchased in pound rolls for about 33¢. It is approximately 13" wide and 112" long and can be separated to make 14 mounts per roll. The short fiber cotton is a little cheaper but does not make nearly as neat a background. Before the cotton is put in place, a strip of glue about one inch wide should be spread around the sides of the cardboard to prevent slipping of the cotton after the mount is assembled. The cotton then can be laid onto the cardboard, smoothed out, and the specimen arranged on it.

Different weights of cellophane for covering the exhibits were used. Cellophane is subject to expansion and contraction. On contracting it bends the cardboard out of shape and becomes very tight. A little tap on the face when it is in this condition will split it in many directions. In time it will tighten up enough to split itself without coming in contact with any object.

We have found a light-weight (No. .0075) celluloid the most satisfactory covering. It is affected very little by changes in temperature, and it is very tough but easy to work with. This weight of celluloid costs about 17¢ per mount, cut 16" x 19". That size allows an inch and a half on the sides and ends for folding over and onto the back.

Black cellulose tape makes a very satisfactory substance for sealing the celluloid to the back of the cardboard.

A later development has been to cut the celluloid the same size as the cardboard and frame the mount with black Scotch cellulose tape. Less celluloid is needed with this method. Celluloid comes in sheets 50" x 20". Enough celluloid for four mounts can be cut from one sheet. Only three per sheet can be made with the other method. Present price for the celluloid is 50¢, making the cost of the covering 12 $\frac{1}{2}$ ¢ per mount when this framing method is used.

SEED DISPLAY

A satisfactory display of seed can be made by laying the celluloid face down on a flat surface, laying a brass ring about 3/8" in diameter and 1/16" thick on the celluloid, and filling the ring with seed. One inch

transparent cellulose tape can be used to hold the ring containing the seed tightly against the underneath side of the celluloid. This arrangement leaves a sealed ring of seed under the covering and laying on the cotton. With this method the seed can be seen very clearly and not spilled out, and it does not make a bump under the celluloid.

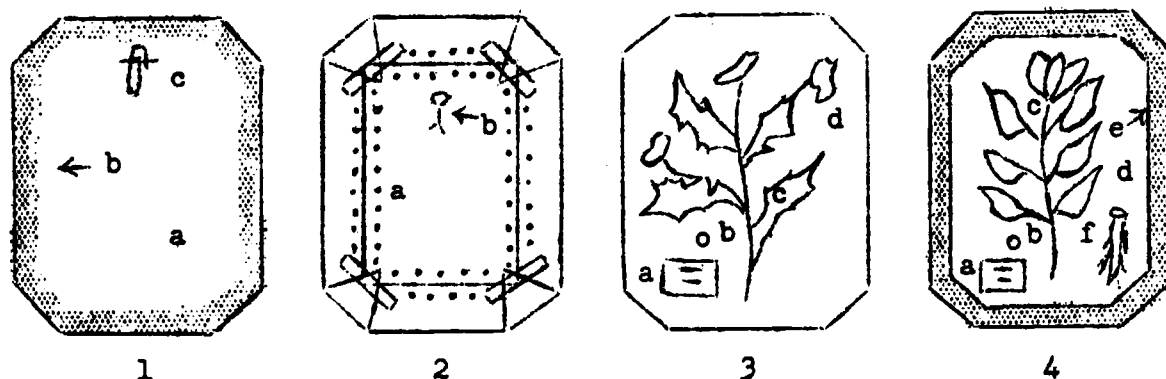
Gelatin capsules $\frac{1}{4}$ " in diameter and 1" long were first used as containers for the seed. The capsule was laid on the cotton before the celluloid covering was put on. This method proved unsatisfactory as occasionally the capsules would break and allow the seed to spill out on the cotton.

HANGERS FOR THE MOUNT

Several different systems were used for hanging the mounts. Dennison linen rings were first tried but proved to be unsatisfactory as they would tear away from the cardboard. The most satisfactory and cheapest hanger proved to be one made from wire. In making this hanger we punched two holes in the cardboard $\frac{1}{4}$ " apart before the mount was made up and ran a brass wire through and twisted it together on the inside. A paper clip or other similar material should be put between the wire and the cardboard to prevent the wire from pulling out. On the outside an eye can be made in the wire by merely twisting it out to the desired size. This way the hanger can be made any desired length.

STEPS IN ASSEMBLING THE MOUNT

The following diagram shows the steps in making the mounts.



1. Front of cardboard before cotton is laid on.
 - a. Corrugated cardboard $12\frac{1}{2}$ " by 16".
 - b. Layer of glue to hold cotton in place.
 - c. Paper clip to prevent wire hanger from pulling out.
2. Back view of cardboard after mount is completed.
 - a. Center line represents edge of celluloid, dotted line on either side is strip of black cellulose tape.
 - b. Wire hanger.
3. Front view of completed mount.
 - a. Label giving common and scientific name.
 - b. Brass ring enclosing seed sealed to inside of celluloid.
 - c. Specimen.
 - d. Long fiber cotton background.

4. Front view of framed mount.
 - a. Label giving common and scientific name.
 - b. Brass ring enclosing seed sealed to inside of celluloid.
 - c. Specimen.
 - d. Long fiber cotton background.
 - e. One inch black Scotch cellulose tape folded onto back
 - f. Root.

The following table itemizes the approximate costs per mount at present prices when buying material for 25 or more mounts. Individual mounts would cost about 30% more.

Corrugated cardboard 12 $\frac{1}{2}$ " x 16"04 $\frac{1}{2}$
Cotton (long fiber hospital quality).02 $\frac{1}{2}$
Celluloid (No. .0075, cut 16" x 19").17
Black cellulose Scotch tape (60" per mount) . .	.04 $\frac{1}{2}$
Miscellaneous, including glue, wire, identification card, and seed display ring	<u>.02</u>
Total cost of materials per mount30

Less celluloid is needed when it is cut the same size as the cardboard and framed with black Scotch tape. Four and a half cents per mount is saved with this method, as less celluloid is used. It is likely that in the future most of our mounts will be made with this latter method.