

# How to Collect, Press and Mount Plants

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Plant collections can be informative as well as attractive. Simple directions are given on how to collect, preserve and display them for 4-H projects or for personal use.

Collecting, pressing and mounting plant specimens is one of the best ways to learn about plants. Plant mounts make better study material than any manual. A properly dried, pressed and mounted plant is attractive, easily displayed and will last a long time.

Most qualified persons are willing to check identifications of your plants if the specimens are properly pressed and mounted with complete and accurate label information. Eventually you can have a fairly complete collection of the plants in your area.

A plant collection makes for an interesting conversation piece in the home and can be used as an exhibit at fairs, schools and other displays.

## Equipment

The following equipment will help in collecting plants:

**Digging tool**—a shovel, garden digger or some other digging tool to remove the plant from the soil.

**Trimming tool**—a sharp knife or a pair of scissors to cut off woody

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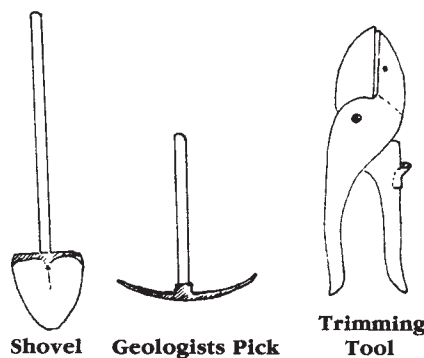


Figure 1

specimens, to remove excess or old plant material and to slice thick roots.

**Specimen container**—plastic bags are recommended for keeping plants until you can press them.

**Notebook**—a field notebook or tablet and a pencil or pen are needed to record all important in-

formation about the plant and the location where the plant was found.

**Plant press**—a binder-type press, 18 inches long by 12 inches wide with alternating cardboard, blotter and folded newspaper is recommended to dry and press the plant. However, other items such as magazines will work for pressing if enough weight is placed on top.

## Collection Procedures

1. Since some plants bloom in early spring and others bloom in the late fall, you will not be able to collect all the plants at any one time of year. Plan several collection trips throughout the spring, summer and fall.

2. Choose plant specimens carefully. Select one, or preferably two, of each

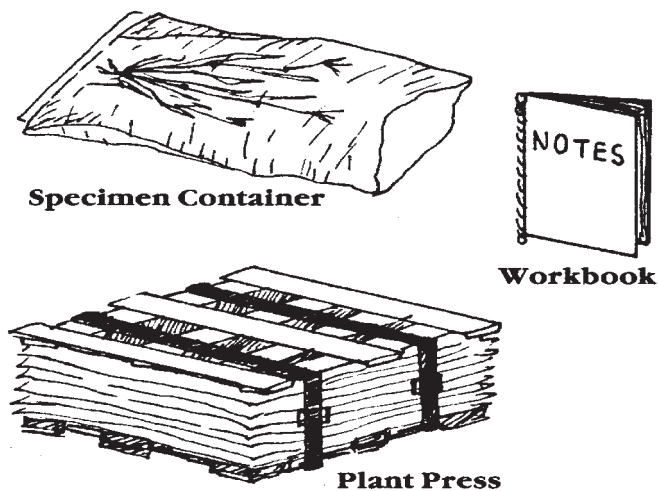


Figure 2

plant species to be collected.

3. Avoid plants that are off-color, grazed, over-mature, diseased or otherwise not normal.

4. While at the site, record each plant in your field notebook or tablet by giving it a number. Record the plant name (if it is known) and the information that will be needed when completing the plant label for your mount. An example of the label that should be used for plants collected as a 4-H project is shown on page 4 of this Montguide. Start a numbering system that will work for you. You may want to include the year, such as 01-1, 01-2. If you use this format, 01 refers to the year and each different plant specimens will be numbered consecutively (1, 2, 3, etc.)

5. When collecting grasses and grass-like plants:

- Select specimens with seedheads fully emerged from the sheath.
- Select specimens that are still green including the seedhead.
- Collect the whole plant, when possible, including a good sample of the roots.
- Be sure that rhizomes or stolons are attached to the plant if they are typical for that species.

6. When collecting forbs:

- Select specimens in the flowering stage.
- Collect the whole plant if possible, including a portion of the root.
- Some forbs can be collected with both flowers and seeds, or seed pods, on the plant at the same time.
- Tap roots or other thick roots should be sliced away on the underside so the plant will be fairly flat after pressing.

7. When collecting shrubs and other woody plants:

- Select a branch about 12 to 14 inches in length and not over 10 inches in width.
- Collect the plant when it is in bloom.
- Many shrubs bloom in early spring before they leaf out. In these cases, collect two speci-

mens, one in flower and one after the plant has leafed out. Mount both specimens on the same sheet.

- It is often useful to include a sample of both the current year's and the older bark of woody plants.
- Roots of large woody plants should not be included on the plant mount.

8. To remove a plant from the soil, dig about 6 inches straight down around the plant about 3 inches out from the stem. Carefully lift out the chunk of sod. If the soil is dry, shake the soil gently from the roots. If the soil is moist, use water to wash away the soil from the roots.

9. Remove all soil particles from the roots. Don't be afraid to wash the roots thoroughly on all the plants collected. In fact, it may take more than one washing. Excess moisture after washing the roots can be removed by firmly pressing the plant between paper towels.

10. Remove the excess plant material from the roots, stems, leaves and seedheads. For example, by removing several stems from a large bunchgrass or shrub, it is easier to dry and mount a specimen. If plants are very large and bulky, collect a sample of the stem, leaf arrangement, roots and flower or seedhead.

11. Take several plastic bags with you when collecting plants. Put the plants in the bag with a few drops of water (don't overdo it), then seal the bag and the specimens will stay fresh. The bags should be kept out of direct sunlight. Another option is to moisten a paper towel with water and place it in the sealable plastic bag. If it isn't possible to press all the plants collected, most plants will stay fresh in the plastic bag—if kept cool in a refrigerator—for a day or two. However, only put one kind of

plant in a bag and number the bag to match your field notebook.

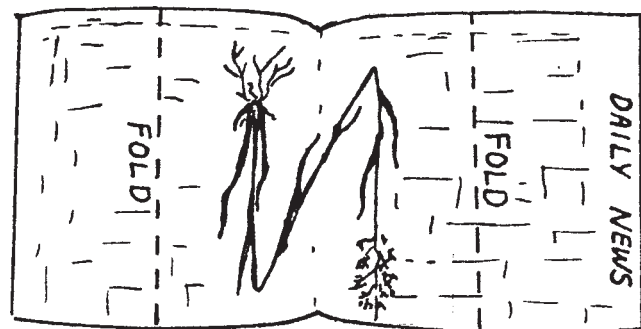
12. Seeds and/or seed pods are very helpful in identifying many plants. A good way to include seeds is to place several seeds in a small, clear plastic, self-sealing envelope attached to the mount sheet. To prevent new weed infestations, it is also a good idea to carefully remove and burn all other seeds from any undesirable or weedy plant specimens.

## Guidelines for Pressing Plants

The object is to quickly dry the plants under firm pressure to retain plant colors and the plant arrangement.

1. Press the plants as soon as possible after collecting. Once a plant wilts, it will not make an attractive mount.

2. Have your press ready to go before you remove a specimen from the plastic bag. Have plenty of newspaper pages folded lengthwise with



**Figure 3. Your newspaper should look like this when folded.**

about a quarter of the upper and lower edges folded toward the center. This will help keep your specimens from sliding out. A supply of corrugated cardboard sheets (cut to fit your press) is also needed. As you fill your press, alternate the cardboard sheets and folded paper (beginning and ending with a sheet of cardboard) to keep the specimens flat and speed the drying process. Al-

though it is not necessary, blotter sheets can be placed between the newspaper and cardboard to speed the drying process.

3. Remove one plant at a time from the plastic bag. Check the plant closely to make sure all soil is removed from the roots and remove excess moisture with a paper towel.

4. If the plant is less than 12 inches long, place it in the folded newspaper. Arrange the stems, leaves, roots and flowers exactly as you want them to appear on the mount. Flowers should be pressed open. Both the upper and lower surfaces of flowers and leaves should be displayed.

5. If the plant is longer than 12 inches, it will be necessary to fold the plant in the shape of a V, N or W. If the plant is still too large, press a sample of each part – stem, leaf, root and flower or seedhead. For hard-to-handle plants, hold at the stem base firmly and slowly move the plant up and down against the newspaper a few times, stopping with an upward stroke. (This will help separate and straighten out the branches and leaves.)

6. Hold the plant in place and fold the upper and lower parts of the newspaper over the plant. While applying pressure to keep the plant in position, write the assigned plant number from your field notebook on the newspaper. Then place the plant into your press (a cardboard sheet should be below and above the folded newspaper).

7. Examine the plant after it has been pressed for 24 hours. This is your last opportunity to do some rearranging while the plant is still flexible. Be sure both upper and lower leaf surfaces show. Change the newspaper or blotter paper every day until the plant is thoroughly dry. Remember that succulent (fleshy) plants will take much longer to press.

8. Plants can be removed from the press in seven to 10 days. Keep the plants in folded newspaper until you are ready to mount them.

## Mounting Plants

After the plant specimens have been pressed and dried, they are ready to be mounted.

1. Herbarium sheets, standard (white) tag or poster board are recommended for mounting sheets. Although herbarium sheets usually have to be ordered through biological supply outlets, poster board can be purchased at most stores selling office and school supplies. If you use tag board, four mount sheets can be cut from one board if each sheet is cut 11 inches by 14 inches. Three sheets can be cut if each sheet is cut 11 1/2 inches by 16 1/2 inches.

2. Placement of specimens is easy if plants have been pressed properly. The specimen should be placed upright with the roots near the bottom and should provide a pleasing appearance. Leave room in the lower right-hand corner for a 3" x 5" mount label.

3. A transparent glue (for instance, Elmer's glue) is preferred to spot fasten the specimen to the sheet. You can also use small strips of gummed cloth. Scotch tape is not recommended. Small weights, such as lead casts, large nails, heavy washers or large nuts will hold the plant to the mount sheet while the glue is drying.

4. Each mount requires a label in the lower right-hand corner. The label must be properly filled out. An example of the label that should be used on 4-H mounts (and the instructions on how to fill it out) follows. These labels are available at the county Extension office.

## Label Completion Instructions

Common and scientific names: Use names from "250 Plants for Range Contests in Montana," Montguide 8402. This Montguide is available at county Extension offices.

**Nearest landmark:** Example—200 yards north of Coyote Wells on Joe Smith ranch.

**Elevation:** Estimate after looking up the elevation of nearest town or other known elevation.

**Aspect:** Example—a northeast facing slope would be entered as NE.

**Topography:** If collected near a stream or other water, circle riparian; other choices are self-explanatory.

**Slope:** Circle the one that most closely fits the slope.

**Abundance:** Consider about one acre at the site.

**Tree overstory:** If the plant collected was shaded by trees, circle "yes," otherwise, circle "no."

**Collector:** Your name.

**Plant number:** Record your plant number assigned in your field record. This is not the page number for the collection.

**Verified by:** If you have the plant mount verified by a qualified botanist, have him or her sign as "verified by."

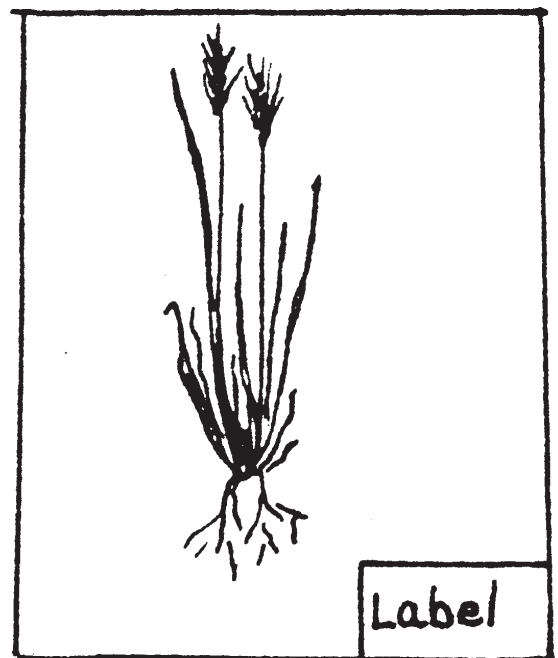


Figure 4

## Guidelines for Storing Plants

1. Mounted plants are usually stored in a cabinet or case to protect them from dust and insects. Although protective material is not required, some collectors (especially for 4-H projects) use a protective cover to protect the plant material as it becomes brittle. Use a 4 to 5 mil clear plastic Mylar material and do not use Saran wrap or 1-2 mil clear plastic. Also, your mounts should not be laminated

with a clear seal plastic until a botanist has verified the specimen and signed the label.

2. Your plants should be filed in a logical order that makes it easy to find a specific specimen. By filing all specimens by family, then arranging the family members in alphabetical order by genus and species, it is easy to find a specific specimen.

3. It is usually a good idea to store a few moth balls with your plants to protect them from insects.



### RANGE PLANT LABEL

Plant Common Name \_\_\_\_\_

Scientific Name \_\_\_\_\_

#### Collection Site Information

Date Collected \_\_\_\_\_ County \_\_\_\_\_ State \_\_\_\_\_

Distance \_\_\_\_\_ (miles) \_\_\_\_\_ (direction)  
from (nearest town/city) \_\_\_\_\_

Nearest landmark \_\_\_\_\_

Elevation \_\_\_\_\_ Aspect \_\_\_\_\_

#### Circle one for each item:

Topography:      Mountains      Foothills      Breaks      Plains      Riparian

Slope:            Nearly level      Rolling      Moderate      Very steep

Abundance:      Abundant      Occasional      Very few

Tree Overstory:      Yes      No

Collector \_\_\_\_\_

Plant No. \_\_\_\_\_ Verified by \_\_\_\_\_

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