Plant Identification, Collection, and the Importance

Know your plants

How to collect

Purpose for knowing and collecting the plants

‘A successful rangeland manager understands not only the soils and climatic conditions of his land, but also the plants that live there’ (Barron S. Rector). The knowledge of the identification and collection is used to protect your land from certain species and get the most out of your land. An individual who wants the land to have good health and prosper should know the plants, how to collect them, and why they are important.

When identifying a plant one of the first steps you can take you need to determine the type of plant grass, grass-like, forbs, or a shrub. For your decision on selecting the type of plant you need to know the characteristics of each type. Grasses have either hollow or pithy stems, leaves on two sides of the stem, and the flower or seedhead is a floret. There are two different types of grass-like plants sedges and rushes, sedges have solid triangular stems, with leaves positioned on three sides of the stem, and they use a male and female reproductive system while rushes have solid round stems, leaves on two sides of the stem, and a female and male reproductive system. Forbs have solid stems, veins on their leaves are netlike, and showy flowers. Shrubs have solid stems with growth rings, and leaves with netlike veins, and smaller less showy flowers. Next determine the height of the plant this will help also with determining the type of plant. Next is to find out if it is annual meaning living less than one year, biennial that means it lives a life span of two years, or perennial they live more than two years. A way to find this out is to look at the size and type of root or the size of plant can help to a certain extent. After that look and find if it grows in colonies or bunches or single plants. Search for characteristics like hairy nodes or hair on the leaves, and color variations such as red on a red grama seedhead. Later study the type of seedhead or flower this will also help with determining the plant that is on your rangeland and if it will make or break your profit. Then look at the roots and
that will help also provide further information about the plant and how the species spreads. Finally you can observe the small details of the plant such as is the stem jointed, does it have simple or compound leaf structure, or the shape of the seed and reproduction.

The proper time to collect plants is when the plants are actively producing seeds or flowers. When gathering the specimens you want to collect all parts of the plant including shoots, roots, flowers, and fruits should be collected. Some simple steps for collecting specimens are:

1. Gather the living specimen
2. Remove all the dirt stuck to the roots
3. Spread the specimen out on newspaper
4. Cover with top sheet of newspaper
5. Place specimen in press between two pieces of blotting material

After the press is set up the plants will begin the drying process needed to preserve them and their color. To speed up the process of drying use convectional heat to dry the specimens. When all the plants are pressed add labels in the newspaper the labels should include common name, scientific name, location of collection, type of site where it was collected, frequency of appearance, life span, collectors name, date plant was collected, season of growth, and whether it is a decreaser, increaser, invader, or introduced.

The dimensions of a plant press are somewhat flexible it needs to be big enough to house all of the plants but not too big where it takes up a huge amount of space. I found that a good size for the outside plywood was 18”x15” and newspaper is pretty standard so use a whole sheet put the plant in and fold the other side over the plant. The cardboard should be cut to fit nicely with the plywood. The press can be held together by basically any kind of strap around one inch in width.

‘Each landowner or manager should be able to identify most of the plants growing on his or her land, understand their value to the ecosystem, and know how to use them’ (Barron S. Rector). Knowing what plant species are on your land
or what species are moving onto your land, this is very helpful in monitoring the health of your rangeland. Knowing the plants on your rangeland will help with livestock production as well and knowing what plants are good for the livestock or potentially threatening. The plants on the rangeland are a vital key to success of your rangeland and being able to identify them will either make or break you.

**Sources**

Texas A&M Agrilife Extension Service, Know Your Plants to Protect Your Watershed. - Barron S. Rector

Keeping Track Of Plants With a Field Herbarium – R. Q Jake Landers