



Learning Laguna Field Notes: Seeds

September 2014

JUST WHAT IS A SEED ANYWAY?

An embryonic plant, along with some stored food, enclosed in a seed coat. The embryo has two points of growth, one which will form the stems, the other will form the roots.

SEED ANATOMY

What is the importance of the seed coat?

Protection from weather, predation by animals such as mice and deer. The seed coat helps protect the embryo from mechanical injury and from drying out.

What is importance of the fleshy parts of the seed?

Food storage.

What does the root do?

Extends into the soil and absorbs water and nutrients essential for plant growth.

What do the leaves do?

Take energy from the sun and turn it into food in the form of carbohydrates (through the process of photosynthesis).

What triggers a seed to germinate?

Light (length of day), soil temperature, water & oxygen levels.

SEED DISPERSAL

Why is seed dispersal important?

Seeds need to move in order to find adequate light, nutrients and water, and to colonize new places.

So how do seeds travel when they can't walk or fly?

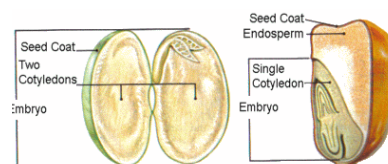
Wind: some have light fuzz or feather-like material surrounding them and are easily blown by the wind. Example: cattail, thistle.

Water: most seeds float so they will travel down stream if they end up in a creek. Example: Tule

Fruit: many develop delicious, sweet, juicy coats we call fruit that is very attractive to animals. After gobbling down the fruit, with the seed inside its belly, the animal walks off and later deposits the seeds of the fruit elsewhere (with its own little nitrogen package in the form of scat). (Fruit serves another purpose in protecting the seeds. Many times the animal will eat the fruit and leave the seeds behind).

Attach: some have sticky or hooked seed coats that attach to pants legs or the fur of animals walking by.

Cache: birds (woodpeckers, jays), mice, woodrats, and squirrels help seeds move by hiding them in the ground, in holes in trees or in their nests for later consumption. Even ants move seeds by carrying small seeds to their nests (they are the only insect to disperse seeds).



Bean

Corn

The cotyledons are the "seed leaves" produced by the embryo. They serve to absorb nutrients packaged in the seed, until the seedling is able to produce its first true leaves and begin photosynthesis.

Some seeds to look for during the fall include: acorns, chicory, grasses, thistle, tarweed, and seeds inside rose hips, blackberries etc.

TRY THIS WITH STUDENTS: Bring an old white cotton sock on the field trip. Put it over a students' shoe before walking the trail. Count how many different types of seeds are stuck on the socks at the end of the walk. Or, put the sock on your arm and brush against plants along the trail. See how many you can pick up.