



CATTAIL: FACTORY IN THE WETLAND

Typha latifolia Other common names: broad-leaved cattail, reed mace, candlewick.

GENERAL CHARACTERISTICS: The familiar, brown cattail begins as two green cigar shapes; the male part with loose, dangling hairs containing pollen directly above the female part. Once fertilized, the female part turns dark brown and the male part falls away, leaving behind a pointed spike. A tall marsh plant, cattail grows in dense groups. Even though one stalk produces about 220,000 seeds, cattails colonize mainly by sending up clones from creeping rhizomes. A cattail marsh can expand up to 17 feet in one year. When a seed does sprout and take root, it produces a plant that can, in its first year, send out rhizomes for ten feet in all directions and produce 100 clones in the first growing season.



PLANT LORE: Cattail appears in written literature in Europe at least as far back as the 15th Century where it's described as a plant having a spike-shaped head like that of a mace (medieval weapon). Cattail stems and leaves were used to weave burial shrouds, sandals and chair seats in Peru. The Ojibwa made duck decoys from the stalks, dolls from the leaves, and woven mats to cover floor and walls of temporary shelters.

In Colonial North America, cattail leaves were twisted into hoops to hold barrels together in the absence of steel. In Sweden, the fluff from the cattail was used to stuff mattresses, pillows and quilts. In Russia, the root was mashed and fermented into a variety of alcoholic beverages. In more recent times, the woolly brown heads were used North America to fill baseballs and life-jackets.



During World War II, children gathered cattail fluff for stuffing life jackets and flight suits. A passable oil was squeezed from the seeds, rayon manufactured from the cattail pulp, and the processed wastes from production of these products was used as chicken feed. The gift of the cattail is endless.

ECOLOGICAL IMPORTANCE: Usually the dominant plant in a wetland, the cattail is used for food and shelter by many creatures, directly or indirectly. Aquatic insects use the cattail's extensive rhizome and root system as shelter both as predators and prey. Beavers, geese, and muskrats eat the rhizomes. Above the waterline, the dead leaves and the seed fluff are used by birds as nesting material; muskrats use the plants for their lodges; spiders use the stalks for shelter. Insects like *Dicymolomia julianalis* use the flowers and the stem. The Sac Spider *Clubiona riparia* folds over leaf tips and creates a "nest" to shelter its eggs. The *Dicymolomia julianalis* caterpillar actually makes its shelter within the flower by weaving the fine hairs on the seeds together. It will live in the warm confines over the winter alone, or with as many as fifty other caterpillars. Chickadees eat the caterpillars in winter.



MODERN FOOD USE: The Cattail is still one of the most versatile wild, edible plants. Some part of it can be eaten every month of the year, making it the perfect survival food.

In late spring the young shoots can be eaten raw or cooked. Later, the green immature spikes can be cooked and eaten like corn on the cob. In early summer, the protein-rich, yellow pollen can be collected, sifted and mixed with flour when making biscuits and pancakes. In late summer the horn shaped sprouts at the top of the root stalks can be eaten raw or cooked. These sprouts contain up to 30% starch and sugars. The starchy core at the base of the sprouts can be prepared like a potato and tastes like cream of wheat hot cereal. In the winter the root stocks, full of complex carbohydrates, can be dried and pounded into flour. The whole rhizome can be cooked like a potato.

Once the flower spikes have gone to seed the fluff can be used as insulation, padding, and wound dressing (if you pull a tuft of seeds from the spike you will notice how compressible, expandable, and soft the hairs are). The leaves have many non-food uses (rub the juice on sore gums). Burlap and caulking can be made from the rhizome fibers, adhesives can be made from the stem, and insulation from the downy spikes.

Future Potential: Cattail has a remarkable ability to absorb phosphorus, nitrogen and other elements that collect in the sediment beds of natural water bodies.

Research is underway in North America, Europe and Asia using floating platforms of cattail and other wetland plants to remove excess nutrients during the summer (in northern climates). The resulting biomass produced is harvested, freeing the root systems to absorb more nutrients the next season, thereby reducing phosphorus loading to major waterbodies.

Experimentation is underway to find economical ways to convert the resulting biomass into roof thatching, solid fuel pellets, biogas and compost.