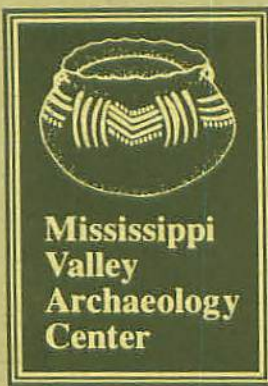


ARCHAEOLOGY EDUCATION PROGRAM

October 2000
Vol. 9 No. 1



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**This year's theme:
Plant and Animals
Remains**

The theme of this year's Archaeology Education Program Newsletter is **Plant and Animal Remains used by early Native Americans** in Wisconsin. This first issue will consider some wild plants, the December issue cultivated plants, then animal resources from the river in the February issue, and finally terrestrial animals in the April issue. Paleoethnobotanist Dr. Connie Arzigian, MVAC's Laboratory Director provided content information for this issue, and will be joined in later issues by faunal specialist Dr. James Theler, UW-L Professor of Archaeology.

Introduction

Western Wisconsin has abundant natural resources from the Mississippi River, other rivers and streams, and the interior woods and prairies. People have relied on these resources for the past 12,000 years. Even today, with grocery superstores everywhere, many people dedicate one week a year to the deer hunt, and a number of weekends to fishing and trapping. Hikers graze on wild blackberries and strawberries and collect hickory nuts for cooking and nibbling.

Early peoples relied on these foods for their daily nourishment. A bad deer harvest led to starvation for themselves and their families, so they learned to maximize their chances of good hunting, fishing and collecting wild plants. Ultimately they began to grow their own crops to further increase the reliability of their food supply. Their activities were wildly successful, as we see from the archaeological record here in Wisconsin.

Wild Plants

Undoubtedly thousands of wild plants played a crucial role in the lives of early Native people. A wide range of nuts, seeds, roots, leaves, and berries were eaten fresh, or stored for later consumption. Teas and juices made from a wide variety of leaves, seeds, roots and bark served as both medicine and beverage. Birch bark, basswood fibers, and grass and sedge stalks were woven for baskets, shelters, and used to line storage pits.

Archaeological evidence of most of these plants has not survived the eons. Most plant remains will not survive more than a few years in the ground. However plant parts that have been burnt or charred have been changed to charcoal, and can last indefinitely. Fortunately, even after charring, seeds retain most of the details of their structure, size and shape, and can be identified. Archaeologists who specialize in the identification and analysis of ancient plant remains are called *Paleoethnobotanists* [paleo = old; ethno = people; botanists = plants].

Recovering Archaeological Plant Remains

Plant remains are not easy to find in the field. They're usually tiny, always fragile, and often not very common. The most common way to collect plant remains is through *flotation*. Archaeologists in the field will take a bag of the soil from a cultural feature such as a garbage pit. They bring the soil (called a "matrix sample") back to the lab, let it dry, and then, a bit at a time, pour the soil into a bucket of water. Any charcoal or plant remains in the soil are lighter than the surrounding soil and will rise to the surface of the water. The water is poured through a screen with holes 0.42 mm (about half the diameter of household window screening). This fine screen catches even the tiniest seeds and other plant remains such as wood charcoal or modern roots. The plant remains (called the light fraction) are allowed to dry, and then they can be examined under a microscope. The seeds, nuts, and wood are sorted and identified. Sometimes things are just too broken or burnt to identify, but most of the time seeds and nuts can be identified to plant groups such as "grasses", or sometimes down to the species, such as wild rice.

Ancient Recipes

Nuts

Nuts, particularly hickory nuts and walnuts were very important foods throughout the past. We know this because archaeologists have found many of their charred shell fragments throughout ancient sites. Nuts are high in protein and fat, both prized by hunter-gatherer populations. They could be stored for use over the long, cold winters, as long as they could be kept away from the squirrels and other wild animals. Finally, the shells made great fuel for the fires to keep warm during those long winters.

Processing the nuts can be very tedious if you try to crack each nut and pick out the meat individually. An alternative method was much quicker. Walnut and hickory nuts could be processed by pounding the shells and meats on a mortar or large rock and then boiling the whole mass. The nut shells would sink to the bottom while the oils and meat rise to the surface and could be skimmed off, the oils either used as a "milk," added to soups or stews, or stored. Hickories are easiest to process this way. Walnut husks are difficult to remove completely and can add an unpleasant taste to the "milk." However, if they're cleaned or boiled first to remove the husk, walnuts work well. Commercially obtained nuts should already be clean.

Berries

The bright red berries of sumac (*Rhus glabra*-smooth sumac, or *R. typhina*-staghorn sumac) makes a delicious lemonade-like drink that is high in vitamins, particularly Vitamin C. The malic acid gives it a citrusy taste. Archaeologists frequently find the charred seeds disposed at sites. Since the seeds stay on the bush for much of the winter, they provided a good source of Vitamin C throughout the long winter when fresh fruits were otherwise unavailable. The plants thrive in areas that have been disturbed, such as along roads today, and possibly near villages in the past. They would have been an easy source of a very nutritious "lemonade." (Recipe taken from *Native Harvests* page 137).



Staghorn sumac
(taken from *Native Harvests* pg 137)

Bruise one cup of the red berries
Soak berries for 15 minutes in 1 quart hot (not boiling) water
Cool and drain
Doesn't need sweetener

Wild Rice

Wild rice is an important part of Native American lives today, as it was in the past. This recipe is a contemporary way to use wild rice.

Ricing Soup

1 cup wild rice, raw	1 stalk celery, chopped	6 cups boiling water
4 oz. can mushrooms	1 pound ground beef	salt and pepper
½ small onion, chopped		

1. Rinse rice in water until water runs clear. Bring rice to boil in a medium sauce pan. Add rice to boiling water, boil 15-20 minutes.
2. Brown beef, onion, and celery. Drain. Add meat mixture, mushrooms, and spices to rice. Boil 10 minutes. Turn off heat, let stand 15 minutes. (Boiling makes rice fluffy, simmering makes rice mushy.) [Recipe taken from *Tribal Cooking*, page 54]

Wild Plants Matching Game

Live Plants



A



B



C



D



E

Seeds



F



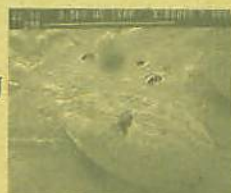
G



H



I



J

Definition

K Bundled for bedding, thatch for houses, fibers for baskets, cordage, seeds for food. Seed is flat and tabular, like wheat.

L Cracked and eaten fresh, stored for winter use; husks used for dyes for hides

M Eaten fresh, ground up and pounded into dried meat to make pemmican; used as dye. Seeds have network of ridges, which helps archaeologists in identification process.

N Eaten fresh in soups and stews and stored for later use

O Herbal tea - important source of vitamin C in the winter. Similar shape to a kidney bean.

Matching Game:

Match the picture of the live plant with the seed that archaeologists find, and with a possible traditional use (some plants may have multiple uses.

At the bottom of the page, write in the letter of the picture which fits into each of the three categories: live plants, seeds, and definition. The answers can be found below.

Drawing and photo sources:
Black walnut seed: Wood 1974:7;
Black walnut plant:
<http://www.hcs.ohio-state.edu/ODN/R/Education/ohiotrees/walnutblack.htm>;
blackberry fresh:
<http://www.alcasoft.com/pense/rasberry.html>;
Blackberry seed: drawn by Rebecca Richter, UW-L student
Grass plant drawing: USDA 1971:69 (*Hordeum pusillum*, little barley)
Grass seed: SEM photo of archaeological specimen taken by Dain Martinek, UWL student
sumac seed: Martin and Barkley 1961:110;
Sumac plant: Kavasch 1979:137;
wild rice plants: Jenks 1977:1056
wild rice seed: Martin and Barkley 1961: 134

Answers:

1. E - F - M
2. D - J - K
3. C - G - O
4. A - I - L
5. B - H - N

Live Plant

Seeds

Definition

1. Blackberries
2. Grasses
3. Sumac
4. Walnuts
5. Wild Rice

Wild Plants Resources

These book reviews, websites, and places to visit can be used as supplemental information. Let us know if you have found any great resources we can share with our readers.

Book Reviews

Title: More Than Mocassins

Author: Laurie Carlson

Publisher: Chicago: Chicago Review Press, 1994

Age Range: 8-teachers

This activity book can be used as a self-directed guide for students, or as a teacher's guide, to focus on the cultural heritage of the first people of North America. Use modern and natural items to replicate the arts and crafts of early Native Americans, who used bone, grass, shell, antlers and more in their lives.

Title: Tribal Cooking

Author: Minwanjigewin Nutrition Project

Publisher: Great Lakes Inter-Tribal Council, 1996

Age Range: 12 - adult

Nice variety of recipes, focusing mainly on wild plants or wild game, with modern ingredients as well. Also has a description of wild rice gathering, and "A Story of Winaboozhoo," about the discovery of Wild Rice by Native People.

Title: Native Harvests

Author: Barrie Kavasch

Publisher: New York: Vintage Books, 1979

Age Range: 14 - adult

This book includes recipes adapted for modern use, and discussions on individual plant uses. The book is fairly technical, and would be good for a high school botany class.

Web Sites

Native American Indian Resources

<http://indy4.fdl.cc.mn.us/~isk/mainmenu.html#mainmenutop>

A site full of links to other web sites focusing on Native traditional food, health and nutrition, and traditional recipes.

Ohio Division of Forestry

<http://www.hcs.ohio-state.edu/ODNR/Education/ohiotrees/ohiotreesintro.htm>

A web page on Ohio's trees has nice discussions of the main trees, including the nut-bearing species, and good color photos.

Wisconsin Department of Natural Resources

<http://www.dnr.state.wi.us/org/land/forestry/treeid/index.htm>

The Wisconsin DNR has a web site with good tree and shrub information and keys, including the nut-bearing species.

Places to Visit

Perrot State Park, in Trempealeau, Wisconsin.

The Black Walnut Trail at Perrot State Park utilizes trail guide and periodic signage on the trail to take hikers through a "Native American Supermarket." Information is given on early uses of wild plants and animals, and natural rockshelters by early Native Americans.