Growing Alaska's Native Pantry and Medicine Cabinet

Alaska Plant Materials Center

Why cultivate native plants?

- Ethics of harvesting in the wild
- Easier to have plants available in one place
- Know what has been applied to them
- Relatively easy

Maintaining food and medicinal plants in cultivation
Minimizes chances of over-harvest in the wild.

At my home, I cultivate and use
these native and invasive wild plants:

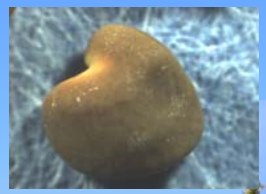
Goldenrod	Plantain
Spruce tips	Valerian
Devil's Club	Angelica
Yarrow	Cow Parsnip
Rose petals and hips	High-bush Cranberry
Willow leaves and bark	Dandelions
Nettles	Lamb's Quarters
Artemisia (Wormwood)	Beach Lovage
Pineapple Weed	Fireweed
Chickweed	Geranium
Bluebells	Chives
Eskimo Potato	Roseroot
Bunchberry	Jacob's Ladder
	Alder

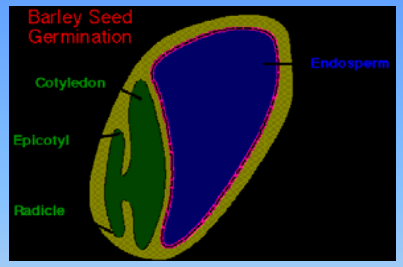
Growing native Alaskan plants successfully for food or medicine,requires knowledge :

- Seed germination requirements
  - Viability
  - Stratification
  - Moisture
  - Light
- Type of environment the seed needs
  - Soil? Wet, medium, dry. Rocky, acid, organic
  - Light? Sun, shade
- Ways to grow plants for easy harvest
  - Rows, raised beds, wild management
- Identification of plants for purpose desired
- Harvest times for seed or parts
  - Seed collection times and techniques
  - Flower, root, stem harvest
- Processing of seed or parts
  - Post harvest cleaning
  - Storage
  - Usage

Which comes first?
The seed or the plant?

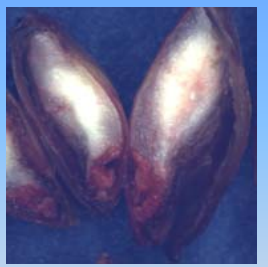
Seed: Embryo, Food, Seed Coat





Native plants have germination strategies to enable them to grow at the right time and place.

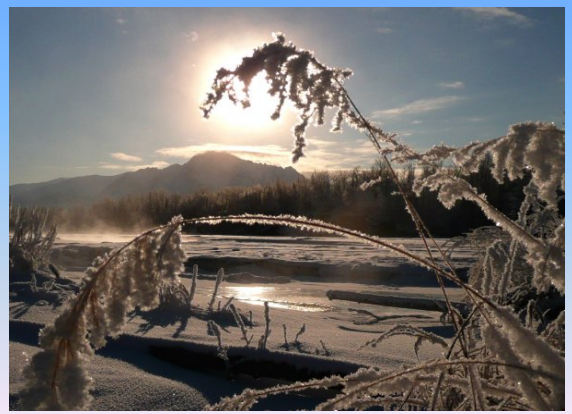
One of the fun things we do at the Plant Materials Center is figure out germination strategies.



TZ test shows
Embryo is viable

Try regular germination first. If that doesn't work…..

Winter Stratification



Imitate nature.

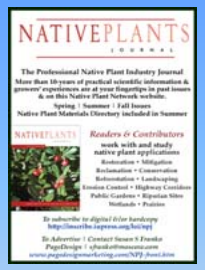
Is the seed spread by wind?

Is it eaten by an animal?

Is it buried or does it lie on top of the ground?

Think of Alaskan environments.
Seed falls usually in the fall. It is covered by snow,
goes through the freeze/thaw cycle in winter,
then is exposed to lots of moisture as break-up occurs.
Summer means long, sunny days.

Plant protocols. Patience.

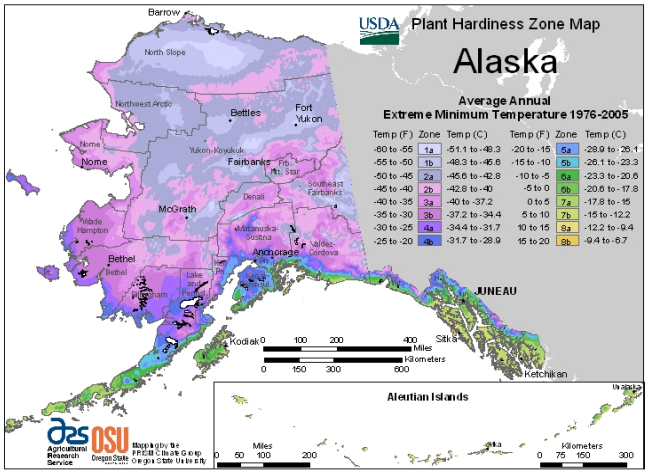


www.nativeplantnetwork.org/

Citation:

Hunt, Peggy; Moore, Nancy. 2003. Propagation protocol for production of container *Carex aquatilis* Wahlenberg *aquatilis* plants; Alaska Plant Materials Center, Palmer, . In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 5 March 2012). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.

Scientific Name:	*Carex aquatilis* Wahlenberg *aquatilis*
Propagule Processing:	Air dry. Clean with brush cleaner and by hand. Care needs to be given that seed is not harmed, but that the perigynia is removed. Approximately 900 seeds per gram. Tetrazolium test showed 90+ % viability. Store seeds in freezer until time for processing.
Pre-Planting Treatments:	Place 1 g. of seed in cloth bags. Run cold water over them for 24 hours. Either place bags between layers of wet peat (peat sandwich) or plant directly into standard no hole flats containing 18 3x3" cells with obligate soil mixture. Store seeds for spring planting in a cooler over winter to enable a sheltered cold moist stratification (cooler was not turned on, but left to fluctuate with ambient temperature.)
Growing Area Preparation/	In spring bring planted seeds into greenhouse. Those seeds in peat sandwiches can be planted either directly outside in wetland bed (coir mat with inch of obligate soil mix) or into cells filled with obligate soil mixture and then placed in greenhouse.
Establishment Phase:	If using fishy peat as the peat portion of the obligate soil mix, fertilize with organic compost tea. If soil-less mixture used, fertilize with non-organic fertilizer.
Length of Establishment Phase:	Seeds germinate readily with this cold, moist stratification.
Active Growth Phase:	Once temperatures outside remain above freezing, move cells to lathhouse. Try to plant C.aquatilis plugs before plants get potbound. If potbound then be sure to tease roots apart when planting.



What does the seed need to germinate?
Light, dark, cold, warm
Where should the seed be planted?
Dry, wet, rocky, sandy, organic
How can I best manage the plants for a successful harvest?
Raised beds, individual pots, rows

Rhodiola integrifolium, Roseroot

Rock Garden - All Native Plants

Wild Cultivation

Which plants do I want to grow

for my Native Alaskan Plant Pantry and Medicine Cabinet?

Tundra Rose or Shrubby Cinquefoil

Potentilla fruticosa

The flaky bark of this *Potentilla* was used to make fires in the past.

The leaves were used to wipe faces before the flowers bloomed. Some people made tea from the leaves to help with tuberculosis.

Wormwood or Stinkweed

Artemisia tilesii

Mash a leaf in your hand. What does it smell like?

Wormwood tea is used on the body for all kinds of skin problems. The tea is good for colds. The raw leaves rubbed in the hand take away the smell of fish.

This is a good plant for revegetation purposes.

Pineapple Weed

Matricaria matricarioides

Pineapple weed is not native to Alaska. It was brought here by the Russians.

Fresh flowers can be eaten in salads. A tea just from the flowers is calming.

Its uses are many. A tea made from the flowers and leaves can be used as an insect repellent. This same tea can be sprayed on new seedlings to help their vigor.

Wild Geranium or Cranesbill

Geranium erianthum

Geranium flowers can be eaten raw.

Geranium leaves made into a tea are a good beverage and are good for stomach problems.

Geranium roots are boiled to treat many internal problems.

Good for revegetation.

Eskimo Potato

Hedysarum alpinum

This plant is also called Wild Potato or Alaska Carrot.

The roots of this plant were probably the most important plant food for many people (besides berries). Eat them raw, boiled, baked, or fried.

Lady Fern

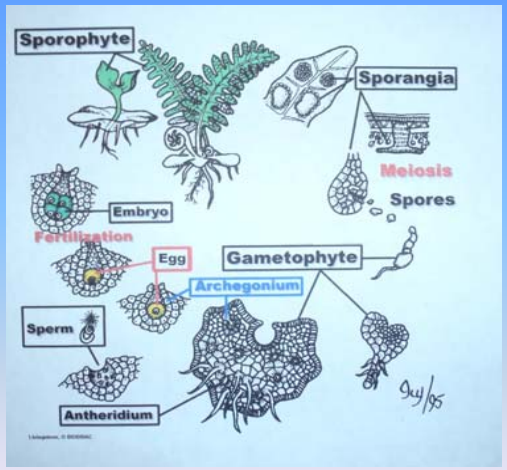
Athyrium filix-femina

Fiddleheads and Roots

Fiddleheads are eaten boiled in the spring before the leaves uncurl. Roots can be dug in either fall or spring (in winter if needed). Roots should be roasted.

Lady Fern fiddleheads have brown scales on them and a U shaped groove on the stem.

Growing Ferns: Ostrich Fern



Fern
Prothalli

Bog Cranberry

Vaccinium oxycoccos

These are flavorful berries. They grow on top of sphagnum in bogs.

They are not stored in quantities for the winter because harvesting does not yield a lot of berries.

They can also be picked in the spring.

They keep well under snow.

High Bush Cranberry

Viburnum edule

Opposite Leaves

A Very Sour Fruit

The bark is made into a tea to help with colds, stomach aches, and sore throats.

The fruit tastes good when cooked as a syrup.

Beach Pea

Lathyrus maritimus

Dena'ina name *chulyin gek'a* which means "Raven's Berry".

Beach Pea grows on sandy beaches.

The peas from the pods can be eaten raw according to the Dena'ina.

The Iñupiaq avoid eating it.

Make sure to identify it correctly.

E. arvense

Horsetail

Equisetum sp.

E. pratense

A common name for this plant is scouring rush.

Because of the silica in its makeup it has been used to clean pots, sand sculptures, and sharpen tools.

False Hellebore

Veratrum viride

Deadly Poisonous!

The Dena'ina of Southcentral Alaska boiled the root for many ailments.

There is a rule "Don't touch the plant if you don't have to; it may kill you if you don't use it correctly." (Kari, 1995)

Wild Chives

Allium schoenoprasum

Identify correctly! If it does not smell like an onion do not eat it.

Wild chives are great with everything! The bulbs can be eaten or frozen. The leaves and stems help spice up any meat or vegetable dish. Just like onions, wild chives can be eaten raw or cooked—fried, boiled, or baked. Yummmmm!

Cotton Grass

Eriophorum sp.

This is not a grass. It is a sedge.

Cotton Grass stem bases and roots are eaten raw or cooked.

One way to find the tasty roots is to find a mouse cache. Mice gather the roots for winter.

Always leave enough for the mouse.

The plant of healing!

Plantain

Plantago sp.

The leaves of Plantain are harvested in the early spring. They are eaten raw or

Leaves, seeds, roots—all are used medicinally. One of the best plants to help heal wounds!

Beach Fleabane

Senecio pseudoarnica

It has a long taproot which drills deep into the earth for water.

Fleshy leaves can be boiled and eaten.

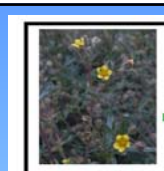
The leaves were also used by the Aleuts to help heal wounds.

Boreal Sagebrush

Artemisia arctica

By cooking the leaves into a tea, the Dena'ina used it for many ailments.

The leaves of Boreal Sagebrush are very smelly. Because of this smell, one can tell that it might be good for a medicine.



This is a good plant for revegetation purposes.

Staghorn Cinquefoil

Potentilla bimundorum

In Latin, the name *Potens* means powerful. The last part, *tilla* means little.

This plant was used for medicines and protection. The stem, leaves, and flowers were made into a tea.

The root is very fibrous, but is a good food for soup.

Alpine Milkvetch

Astragalus alpinus

The stems, leaves, and flowers of alpine milkvetch make a beautiful yellow-green dye.

This is a good plant for revegetation purposes. It adds nitrogen to the ground and color to the landscape.

Birds like the red berries but people don't eat them. The bark and berries were used for a tea for medicine.

Mountain Ash

Sorbus sitchensis

A steambath switch!

Waving a Mountain Ash stem with leaves attached makes a fragrant smell in the steam.

Leaves are alternate.

Leaves are opposite.

Red Elderberry

Sambucus racemosa

A popgun for kids!

The Dena'ina took a straight piece of stem, about 12 inches long, carefully hollowed it out, and then loaded it with pieces of birch polypore. The cooked red berries were made into jams or mixed into stew.

Roseroot

Rhodiola integrifolia (rosea)

Roseroot is a plant found on rocky slopes and alpine meadows throughout Alaska. Its fleshy leaves and root can be eaten raw or cooked.

Roseroot leaves and roots were used for medicinal teas. These teas were used externally on wounds and internally for many problems.

Larkspur or Delphinium

Delphinium glaucum

Larkspur can grow up to 6 feet tall!

Poisonous

The root of larkspur was boiled and used to get rid of lice.

The flowers make a blue dye.

Stinging Nettle

Urtica dioica

"That which stings"

Young Nettles can be eaten slightly boiled, like spinach.

They are very tasty and high in Vitamin C. You can harvest them several times as long as they are still young. When nettles are older they make a strong fiber for cords and rope.

You just need to watch out for the stings!

This is a good plant for revegetation purposes.

Tall Fireweed

Chamerion angustifolium

Food—leaves, stems, flowers

Medicine—Tea of leaves for stomachaches

Fiber—Twine, Fish Nets

Mosquito Repellent

Young fireweed shoots are a good source of Vitamin C. They can be eaten raw or cooked. The flowers can be eaten.

Sweet Coltsfoot

Petasites frigidus

If the leaves taste good they can be eaten raw or cooked (depends on the soil type). The leaves were dried and stored for use as a tea to help colds.

The 9 inch leaves can be made into baskets to hold berries, funnels, or to cover barrels of rhubarb and blueberries to prevent mold.

Single Delight or Bethlehem Star

Moneses uniflora

Single Delight is found in woods, almost hidden by moss. Its leaves are evergreen and fragrant. It is in the wintergreen family of plants.

A tea was made from its leaves and flowers to heal sore throats.

Chew the leaves and then place them on cuts or blisters for healing.

Bedstraw

Galium boreale

This sweet smelling plant was used to fill mattresses.

Young plants can be cooked for food.

The leaves produce a yellow dye. The roots make a pink to purple dye.

Northern Yarrow

Achillea millefolium var. borealis

Yarrow was an important medicinal plant for most Native People in Alaska.

This is a good plant for revegetation purposes.

The leaves and flowers are boiled to make tea, steam, hot packs, or a wash for sore eyes, stuffy sinuses, aches, or other problems. Raw yarrow can be rubbed on the skin to repel mosquitoes.

Mosses

Uses: Diapers or Toilet Paper

Mosses were used for mattresses, insulation of houses, markers, and as fire starters.

There are over 415 different types of mosses in Alaska.

Monks Hood Lichen

Hypogymnia physodes

Brown dye for wool.
Used in soups.
Survival food.

River Beauty or Dwarf Fireweed

Chamerion latifolium

Leaves, shoots, and flowers are high in Vitamins A and C.

This can be used for revegetation.

Leaves and shoots should be cooked. Flowers can be eaten raw. The leaves are not as tasty as tall fireweed.

Bunchberry or Dwarf Dogwood

Cornus canadensis

A Fruit Snack

Some people like them and others do not.

They can be mixed with other berries and cooked or eaten raw.

Spruce: *Picea sp.*

A spring-time tonic—spruce tips.

Harvest the spring spruce tips while part of their brown bud scale is still attached. Eat raw or make into a tea.

Wild Rose

Rosa sp.

The petals of our wild roses can be eaten raw or made into rose petal jam.

The leaves were used for tea.

Rose hips (fruit) are high in Vitamin C. Jellies, jams, and sauces are made from rose hips.

Arctic Dock: *Rumex arcticus*

Three common names are used for this species: Wild Rhubarb, Sour Dock, or Arctic Dock.

The young leaves of Sour Dock can be eaten raw or cooked. They are a good source of Vitamins A and C.

The roots were used for medicine.

This plant is usually found in wet areas.

Wild Rhubarb

Polygonum alaskanum

Stems and leaves were eaten raw or cooked. The stems were made into desserts.

If the stalk breaks easily with your fingertips, it is ready to eat.

Meadow Bistort

Polygonum bistorta

The young leaves can be eaten raw or cooked. Leaves were preserved in seal oil to be eaten in the winter. The roots can be eaten raw or cooked.

The underground root grows in a crescent shape. Chewing the root after eating helps to clean the teeth.

Labrador Tea

Ledum palustre

The young leaves and stems of Labrador Tea are made into infusions for many illnesses.

Caution needs to be taken with this plant because it contains ledol, a poisonous substance that can cause paralysis.

Medicine
Beverage: leaves and flowers as tea
Spice: young leaves
Tools: switch for sweathouse

Angelica

Angelica lucida

Angelica's young leaves and stems were eaten like celery. The stems were peeled and the juicy insides were eaten.

Caution!!! This plant looks very similar to the poisonous Water Hemlock. They both grow in the same areas.

Do not eat unless positive of identification!!!

Beach Lovage or Petru'shka

Ligusticum scoticum

The leaves and young shoots of Petru'shka can be eaten raw or cooked. They are high in Vitamins A and C.

Look in the middle of the plant to find young leaves in the summer. They are good cooked with fish or in soups.

Paper Birch

Betula papyrifera

Sap was eaten raw.

Bark used to make:

- Casts for broken bones.
- Baskets for cooking and carrying
- Roofing material
- Canoes
- Hats

Balsam Cottonwood: *Populus balsamifera*

Cottonwood buds are sticky because of a resin that covers them. A salve is made from the buds to help heal rashes. Burn the buds, and then breath in the smell to help colds.

Cottonwood logs are very soft. It is easy to carve. Canoes, goggles, and toys are made from this wood.

Alder

Alnus crispa or incana

Alder wood is good for smoking fish and meat. The wood was also used to make shelters in the mountains.

A reddish-brown dye is made from the inner bark.

The inner bark is used to make a tea to relieve gas and fever. It tastes so bad the person vomits.

Willow *Salix sp.*

Willow stems, branches and leaves are chewed to help with headaches and mouth sores.

Young stems are peeled and the inner bark is eaten.

The branches are made into string, fish hangers, basket rims, lean-tos, and yellow dye.

There are 35 different species of willow in Alaska!

Yellow Pond Lily: *Nuphar polysepalum*

The root of the pond lily is really big! Some people sliced the root and warmed it to put on painful spots. Others ate the cooked roots as a vegetable.

The seeds were either roasted or ground up for cereal. The seeds taste like popcorn.

Water Hemlock

Cicuta douglasii

Poison!!!!!

Water Hemlock grows near streams and in boggy areas. It looks similar to many other plants. The whole plant is poisonous.

Goldenrod

Solidago multiradiata

Goldenrod has been used to help heal many problems. A strong tea from the whole plant was made and put on body sores. A weaker tea was used for internal ailments.

This is a good plant for revegetation purposes.

The flowers make a yellow dye. All goldenrods have some latex in their sap.

Tall Jacob's Ladder

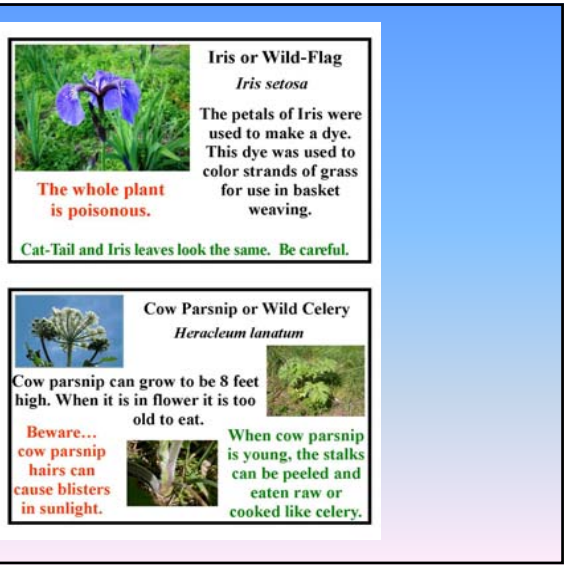
Polemonium acutiflorum

Tall Jacob's Ladder gets its name from the way its leaflets look like a ladder.

The leaves have been made into a tea to promote sweating.

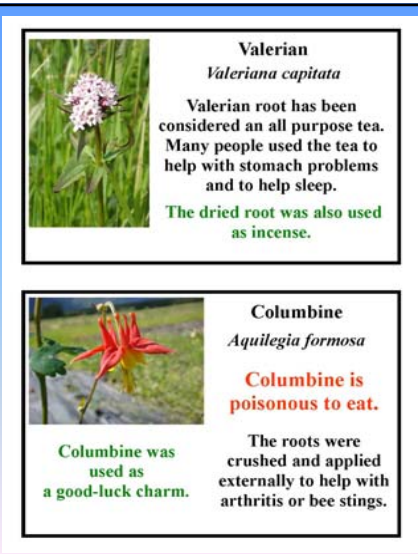
This is a good plant for revegetation purposes.

The root is a sedative.


Iris or Wild-Flag
Iris setosa
The petals of Iris were used to make a dye. This dye was used to color strands of grass for use in basket weaving.
The whole plant is poisonous.
Cat-Tail and Iris leaves look the same. Be careful.
Cow Parsnip or Wild Celery
Heracleum lanatum
Cow parsnip can grow to be 8 feet high. When it is in flower it is too old to eat.
Beware… cow parsnip hairs can cause blisters in sunlight.
When cow parsnip is young, the stalks can be peeled and eaten raw or cooked like celery.


Sitka Burnet
Sanguisorba stipulata
Sitka Burnet is a beautiful landscape and revegetation plant. It is very easy to grow.
Sitka Burnet's leaves can be made into an herbal tea. The roots were used for internal problems.
Official Burnet
Sanguisorba officinalis
The leaves of Burnet can be eaten while the plant is young. They are good in salads and soups.


Moss Campion
Silene acaulis
Moss Campion is a plant found in dry, rocky alpine areas.
It hugs the ground making a moss-like carpet. The flowers are very fragrant.
Raw root skins were used for food.
Alpine Bluegrass
Poa alpina
Traditional uses of grass:
Baskets
Bedding
Smoke against mosquitoes
Filling in swampy places
Insulating footwear
Covering floors
Lining cooking pots
This is a good plant for revegetation purposes.


Valerian
Valeriana capitata
Valerian root has been considered an all purpose tea. Many people used the tea to help with stomach problems and to help sleep.
The dried root was also used as incense.
Columbine
Aquilegia formosa
Columbine is poisonous to eat.
Columbine was used as a good-luck charm.
The roots were crushed and applied externally to help with arthritis or bee stings.

Water Sedge

Carex aquatilis

Roots were made into a medicine for women whose menstrual cycle was delayed. The stems and leaves were made into baskets and bedding.

Beaked Sedge

Carex utriculata

Sedges have edges but rushes are round, grasses are hollow, all the way to the ground.

Soapberry

Shepherdia canadensis

Alaska's Dessert Berries

Mid-summer these berries were harvested, mixed with sugar, and with the hands were whipped into a foam (like soap!) This foam was used like whipped cream.

Silverberry

Elaeagnus commutata

Don't place Silverberry wood in a fire. When it burns it smells like an outhouse.

The berries were eaten only in survival times. The seeds were made into beads. The bark was used for cord.

Devil's Club

Oplopanax horridus

Watch Out For Its Thorns!

Devil's Club does have many uses—most of which are medicinal. The inner bark of the roots and stems is used for tonics to help with colds. **The buds can be eaten as a vegetable.**

Watermelon Berry or Twisted Stalk

Streptopus amplexifolius

Another name for this plant is scoot berry. **If you eat too many you have to scoot to the bathroom!** The berries are edible, but watery. The young shoots are good cooked like asparagus.

Seaside Sandwort

Honckenya peploides

These leaves and stems are a good source of Vitamins A and C. They can be eaten raw or cooked.

This plant is common on sandy or gravelly ocean beaches.

Common Harebell or Bluebell

Campanula rotundifolia

The roots of the blue-bell have been used for medicinal purposes. A tea was made for many internal problems.

The dried, chopped root was used to stop bleeding and aid healing of cuts.

Harvesting your plants depends upon which part you are using.

Leaves: midmorning. Young leaves are best for most food. for the highest medicinal benefit, harvest just prior to flowering.

Flowers: Harvest in early stages of maturity.

Roots: Best dug at end of growing season.

Eskimo Potato
Hedysarum alpinum

Grass seed

Any plant used carelessly can harm.

The same plant, when dispensed from knowing and loving hands
Will heal hurt and banish suffering.

Clean plant parts thoroughly.
Store appropriately.
Use with knowledge.

Drying
Freezing
Storage
Infusion: Hot Water
Tincture: Alcohol

Low Tech Devices

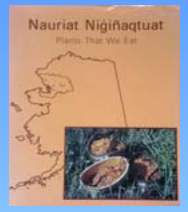
References

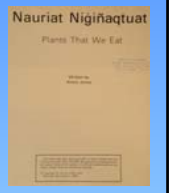

Wild Edible and Poisonous Plants of Alaska
Growing 101 Herbs
NATURE'S GARDEN
CREATIVE PROPAGA


Alpine Plants
Ecology for Gardeners
John E G Good & David Malyard

TANAINA PLANTLORE


ETHNOBOTANY
THE GREEN ROOF MANUAL
WILDFLOWERS
Dangerous
handle
WOODCHUCK'S GUIDE TO GARDENING


Nauriat Niğiñaqtuat
Plants That We Eat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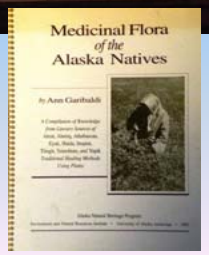
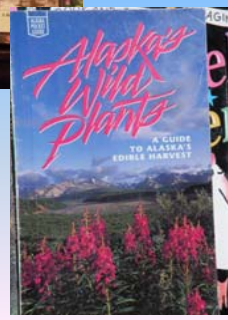
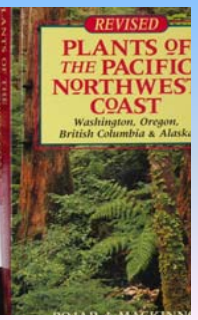
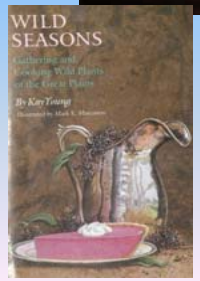
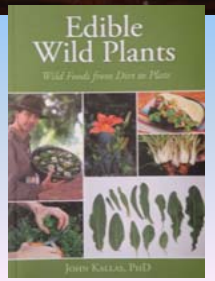

Medicinal Flora of the Alaska Natives
by Ann Garibaldi

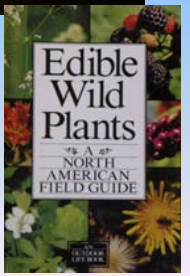

Alaska's Wild Plants
A GUIDE TO ALASKA'S EDIBLE HARVEST

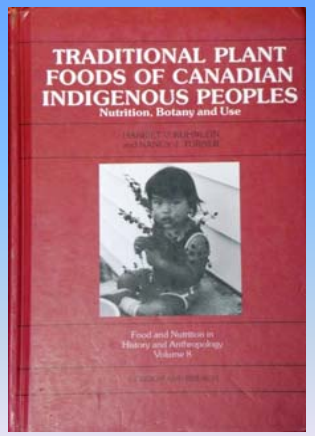

REVISED
PLANTS OF THE PACIFIC NORTHWEST COAST
Washington, Oregon, British Columbia & Alaska

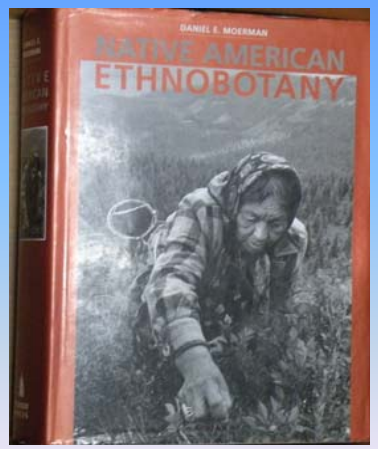

GRIT
FARM
Dangerous
NATIVE AMERICAN FOOD PLANTS
Grasses
Herbs Demystified

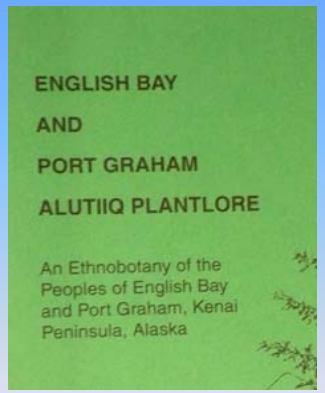

WILD SEASONS

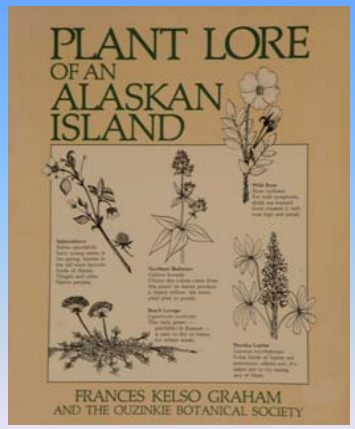

Edible Wild Plants
Wild Foods from Dirt to Plate


Edible Wild Plants
A NORTH AMERICAN FIELD GUIDE









Nettles

Young Nettles can be eaten slightly boiled, like spinach.
A tea is great for allergies.
Dried, use them in the winter for teas or in soup.

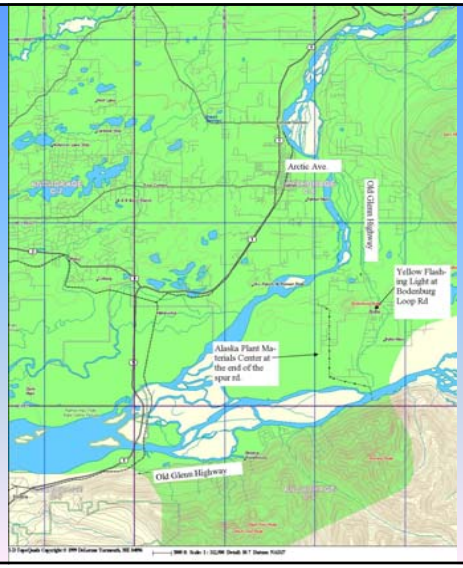
They are very tasty and high in Vitamin C.
You can harvest them several times as long as they are still young.
When nettles are older they make a strong fiber for cords and rope.
You just need to watch out for the stings!

Alaska Ethnobotany Garden

Valuable Plants
Traditional Use Plants
Cultural Plants
Plants for You and Alaska

In this garden are many plants that were and are being used by the many cultural people of Alaska.
Some plants are for food.
Many plants are for medicine.
Some parts of each plant were used for different reasons.
Each plant is interconnected to the earth.
Respect comes with understanding.

Throughout the garden are interpretive signs.
The plant signs show the common name, scientific name, picture, and uses or interesting information.
You can decide which way to go. All trails are ADA accessible. Enjoy sitting on the benches to listen to the sounds of nature and enjoy the beautiful scenery.



Contact Alaska Plant Materials Center

- Peggy Hunt
- 907-745-8721
- E-mail: peggy.hunt@alaska.gov

http://plants.alaska.gov