

YOU ARE WHAT YOU EAT

Every 35 days, your skin renews itself. Your liver, about a month. Your body make these new cells from the food you eat. What you eat, literally becomes you.

YOU HAVE A CHOICE IN WHAT YOU'RE MADE OF

Moose diet:

trees and shrubs include willows, trembling aspen, red osier dogwood, red maple, striped maple, white birch, beaked hazelnut, pin cherry and, primarily in winter, balsam fir. Aquatic plants, yellow pond lily and pondweed (summer)

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Essentially, fat soluble vitamins are vitamins that dissolve and are stored in fat.

These vitamins include **A, D, E, and K**. They're different from water-soluble vitamins, like vitamin C, because they're actually stored in the body and released over time. Your body eliminates water-soluble vitamins regularly, but it **can store up fat soluble vitamins for later.**

Many babies have a Vitamin K deficiency at birth, which can cause bleeding problems.

These vitamins are stored in the fat of animals just like they're stored in our own fat, so by eating high fat animal products, you can ensure nutrient dense diets

What are Fat Soluble Vitamins?

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Fat Main sources:

Animal fats from "pasture raised" "grass fed" "Wild Harvested"

Healthy fats while reducing Carbs

Animal fat
Tallow bison fat
Marrow
Duck Fat
Goose with skin

Dairy fat
Butter
Heavy cream, cream cheese, (pasture raised)
Lard-pork fat

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Diet For a Healthy Pregnancy Based on Indigenous Canadian Indians

Calories	Food	Fat Soluble Vitamins	Calcium	Phosphorus
2500	Flesh of Wild Game	Medium	0.28	4.15
400	Grains and Organs	Very High	0.38	1.49
100	Vegetables, Berries & Nuts	Low	1.82	0.94
3000		High	3.36	4.43

"The Indian knows where these special life-giving substances are to be found and he like the wild carnivorous animal is wise in food selection. He accordingly selects the liver, brain, kidneys, and glands. Part of every day's food for the Indians includes eating some of these special tissues. The parents provide these for the children and teach them their special values."

The Secret to Indigenous Health is the Liberal Use of Fat-Soluble Vitamins

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Liver

B vitamins and iron.

B vitamins include B6, B9 (folate), and B12; these crucial micronutrients support proper neurological function.

Folate in particular is necessary for DNA reproduction. Every new cell in your body contains a complete copy of your DNA, so folate supports the healthy development of new cells.

Accordingly, deficiency of folate is associated with neurological birth defects. Another B vitamin, choline, is also important to neural development.

Meat and fish are two excellent sources of B vitamins.

Liver Organs

Vitamin A is important for a pregnant woman and her developing fetus, especially the lungs, kidneys, and nervous system, as well as the eyes.

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Comparing Eggs

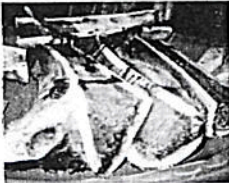
	Yolk	White	Total
Cholesterol	213 mg	0 mg	213 mg
Protein	2.7 g	3.6 g	6.3 g
Fat	3.3 g	0.1 g	3.4 g

Eggs-Protein, vitamins and minerals

- Egg yolks are rich in choline- relative of B vitamins- fostering normal brain development
- Lifelong memory enhancement- changes in brain development (hippocampus)
- 94% of women are not meeting the recommended intake of Choline per day
- **liver and Choline have by far the most concentrations than any other foods**
- 2 eggs with yolks meets half the recommended intake per day

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Bone Marrow


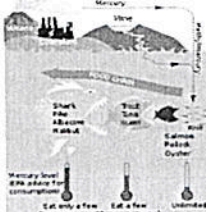


".....require that the marrow be taken from bones that even the walls of the intestine or stomach after having been thoroughly cleaned should be utilized for foods as well as the tissues of every organ and gland of the body of the animal. I was told by different Indians that even when plenty of moose were available the livers of small fur animals were utilized for food."

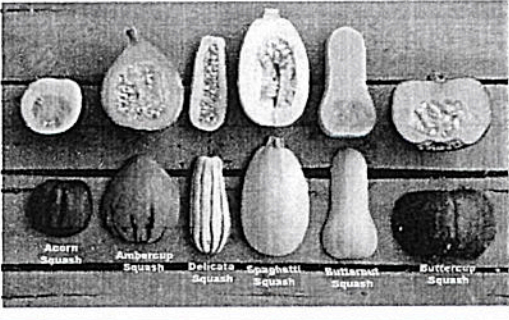
Place bones on a baking sheet and roast for 15 minutes at 400 degrees.
You can also make a nutrient-dense beef broth or beef stew using marrow bones. When the bone broth or stew is finished cooking, remove the bones and scoop the marrow from the bones.

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Fish Head Soup and Fish Broth

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Acorn Squash, Ambersip Squash, Delicata Squash, Spaghetti Squash, Butternut Squash, Buttercup Squash

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Wild Rice Benefits

Diabetics- low glycemic
The majority of diabetics limit their consumption of rice, so as to manage the amount of sugar within their bodies. However, there is no need for diabetics to avoid all kinds of rice totally.

Digestive Processes-Fibre

Weight Loss- complex carbs


Immune System Booster-Vit C

Bone Strength-phosphorus and zinc

Anti-Aging-anti-oxidants

Growth and Repair-proteins

Birth Defects- folate and B vitamins




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The Plate Method

Meal breakdown (general guide):

- 2 cups+ vegetables (with some fat, like butter or olive oil)
- 3-4 oz of protein (with naturally-occurring fat, like the skin on chicken)
- 1/2 to 1 cup of starchy or carbohydrate rich whole foods*



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7 Pillars of Food Sovereignty

- 1. FOCUSES ON FOOD FOR PEOPLE**
 - Puts people's need for food at the centre of policies
 - Insists that food is more than just a commodity
- 2. BUILDS KNOWLEDGE AND SKILLS**
 - Builds on traditional knowledge
 - Uses research to support and pass this knowledge to future generations
 - Rejects technologies that undermine or contaminate local food systems
- 3. WORKS WITH NATURE**
 - Optimizes the contributions of ecosystems
 - Improves resilience
- 4. VALUES FOOD PROVIDERS**
 - Supports sustainable livelihoods
 - Respects the work of all food providers
- 5. LOCALIZES FOOD SYSTEMS**
 - Reduces distance between food providers and consumers
 - Rejects dumping and inappropriate food aid
 - Reduces dependency on remote and unaccountable corporations
- 6. PUTS CONTROL LOCALLY**
 - Places control in the hands of local food providers
 - Recognizes the need to inhabit and to share territories
 - Rejects the privatization of natural resources
- 7. FOOD IS SACRED**
 - Recognizes that food is a gift of life, and not to be squandered
 - Asserts that food cannot be commodified

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**INDIGENOUS WOMEN
EMPOWER
THE RESISTANCE**


Glenda Abbott
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- Seed Saving workshops
- Pemmican Making
- Ancestral Foods workshops for prenatal and diabetes
- Traditional Gardening Programs
- Sacred Tobacco workshops-growing for seed and ceremony
- Prenatal and Breastfeeding Foods

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Indigenous Food Systems: Globalization, Food Justice and Fostering Allies

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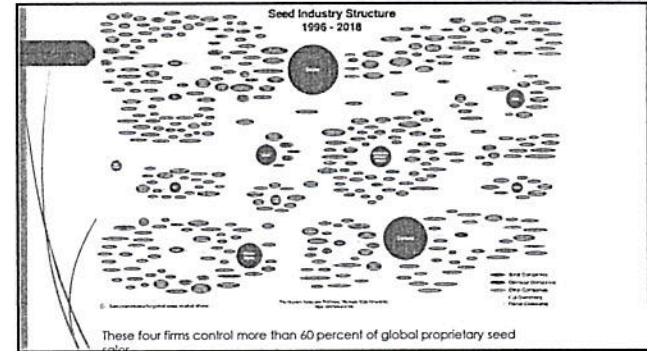


FOOD PRODUCTION WILL NEED TO INCREASE BY AT LEAST 60% OVER THE NEXT 35 YEARS TO PROVIDE FOOD SECURITY FOR THE 9 BILLION PEOPLE EXPECTED TO BE LIVING ON THE PLANET

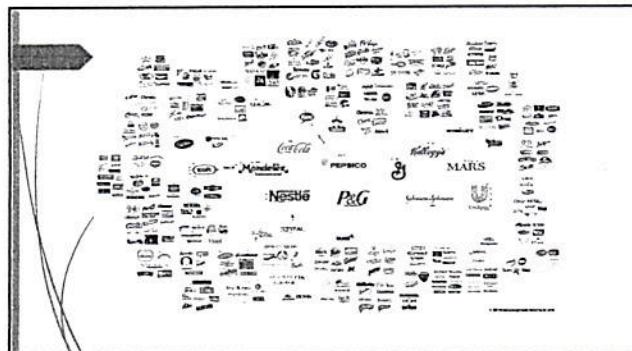
"We must increase production by 70% by 2050 or face massive global hunger."
major media, World Bank, FAO, USDA, DFID, EU

gettyimages

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The Corporate Food Regime

- A food regime is a "rule-governed structure of production and consumption of food on a world scale" (Friedman 1993).
- The corporate food regime, based on fossil fuels; dominated by global monopolies; characterized, *inter alia*, by the "supermarket revolution," global animal protein chains, and GMOs (McMichael 2009).
- Monopolies, Gov't., World Bank/IMF, World Food Program, USAID, and big philanthropy.

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ROOT CAUSES

- ▣ **Vulnerable food system:**
 - ▣ 91% cropland cotton, maize, wheat, rice & soy
 - ▣ Economic shock
 - ▣ Environmental shock
- ▣ **Corporate Food Regime**
 - ▣ Grain traders/processors
 - ▣ Seed & genetic engineering
 - ▣ Retail & distributors

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GLOBAL INEQUALITY: Undernourished- Obese- Micronutrient deficient

600 MILLION people undernourished in terms of energy intake.

2 BILLION people are obese or overweight.

1.4 BILLION people are micronutrient deficient.

ORGANIC AGRICULTURE CAN CHANGE THIS!

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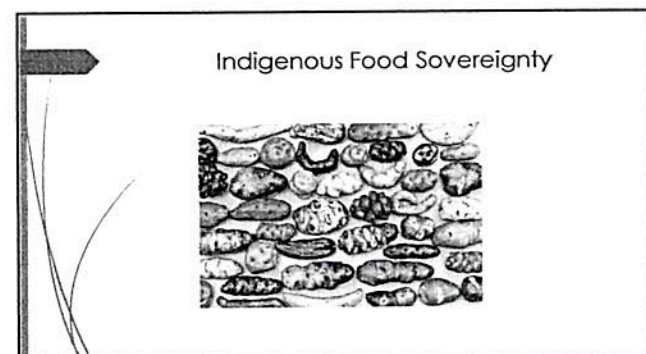


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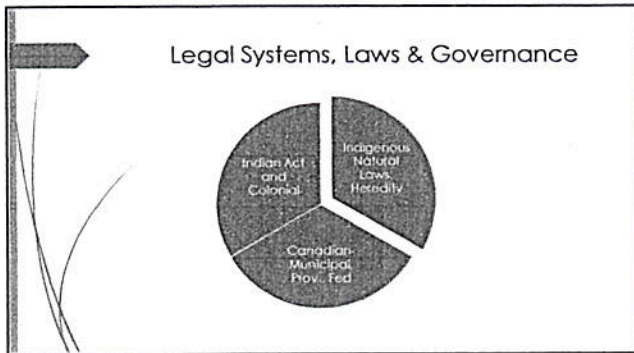
The current food regime is fundamentally racist.

This is not a broken system.

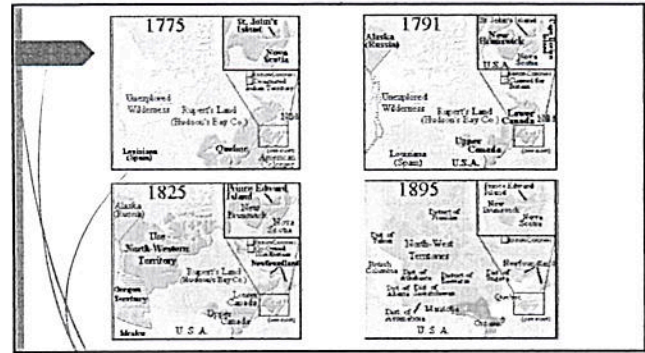
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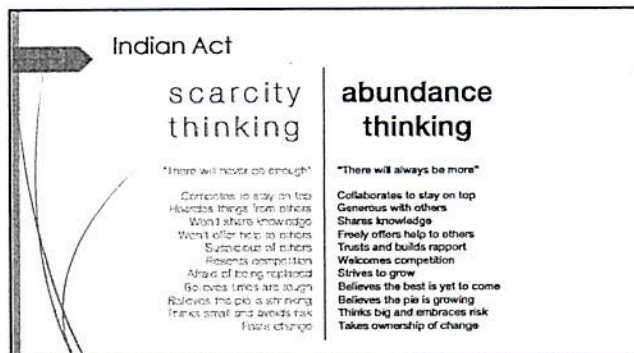
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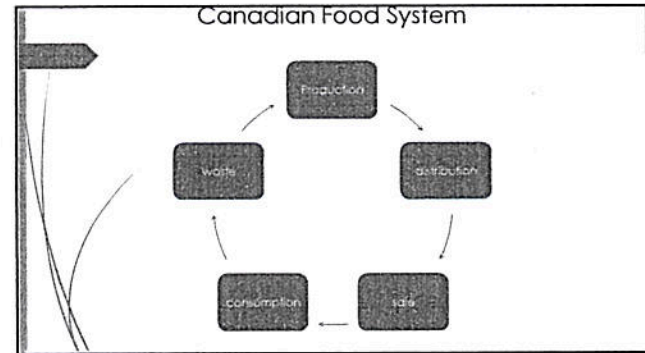
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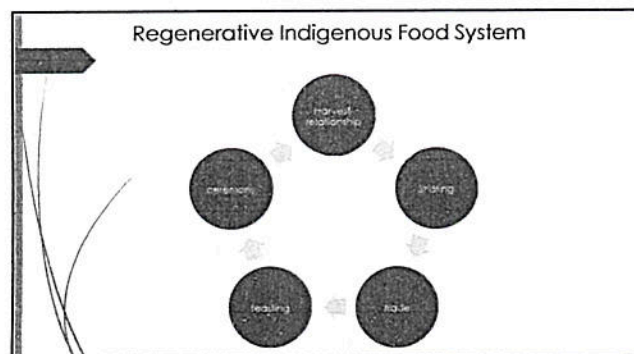
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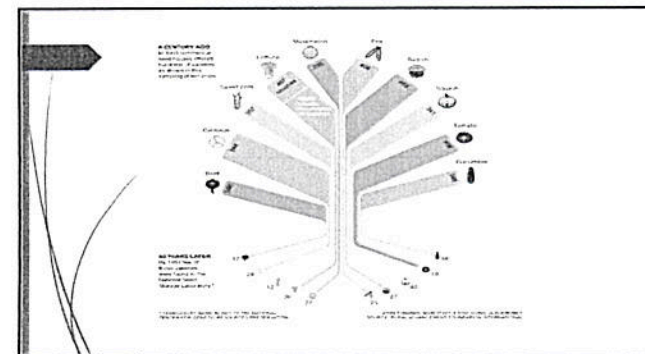
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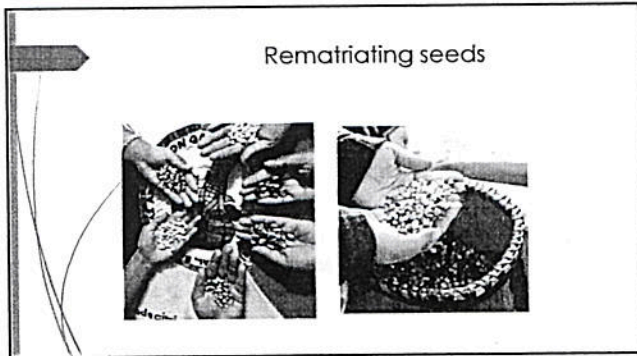
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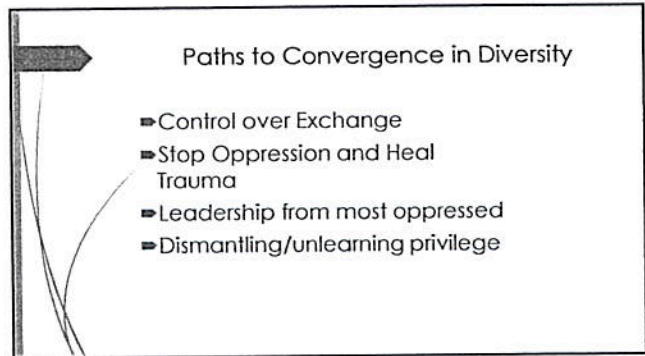
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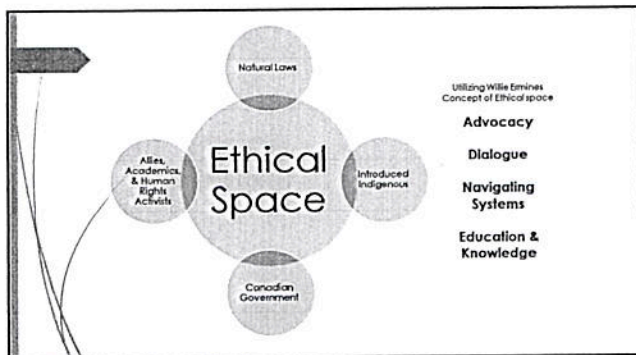
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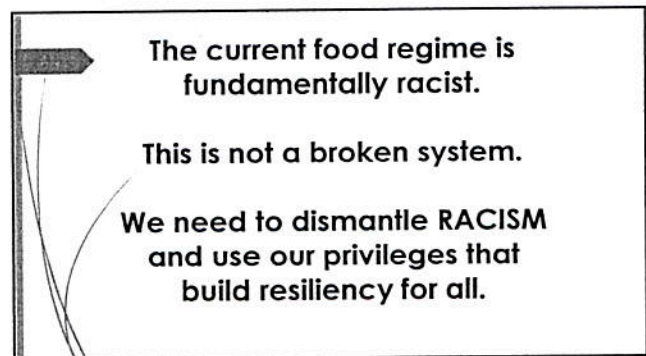
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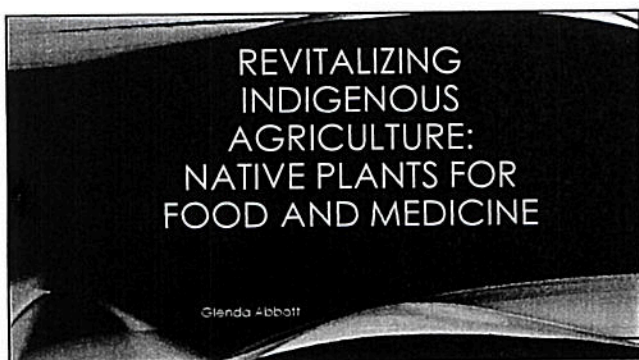
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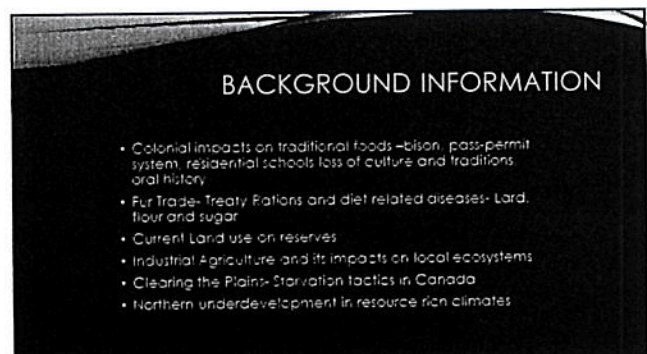
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REVITALIZING INDIGENOUS AGRICULTURE PROJECT (RIAP)- 2015-2017

The planting of tobacco in the field is a traditional practice that has been revitalized through the RIAP project. The project focuses on teaching traditional practices and knowledge to the next generation of Indigenous farmers.

Each tobacco plant in the field and in the garden will produce a crop of tobacco leaves that will be used for traditional and ceremonial purposes.

RIAP garden in 2015

Tobacco and a garden

Each plant was planted in a grid pattern and the garden was maintained throughout the year.

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DECOLONIZING LAND THROUGH OUR INDIGENOUS POLLINATOR GARDEN

We planted 2 Indigenous Pollinator Gardens for Interpretive Learning with plants that support native and traditional medicinal and sacred plants.

The second garden sits in the center of the original garden and is a pollinator garden.

Within the garden are 40 species of native plants and native grasses that are native to Saskatchewan, Indigenous, Wetland and Woodland. The plants are native to the region.

Each garden is a pollinator garden that supports native and traditional medicinal and sacred plants.

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EXAMPLE OF PLANT RELATIONSHIPS

Rose Hips
Bark: Feminine issues with menstruation
Roots-child diarrhea, chest colds
Eat raw to prevent cold and fever
Petals for heart
Vitamin C
Giant Hystop - poisonous when eaten raw, but safe when cooked. It is related to coughing and chest pain. (Native name: adium)

Raspberry
Leaf: Feminine birth and aftercare, slow
Roots and Stems for child diarrhea, stomachache, boiled for fevers
Fruit is good for heart

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HARVESTING NATIVE PLANTS

In the last 150 years, the majority of native prairie in North America has disappeared. In Saskatchewan it is estimated that almost 80% of the prairie has been lost. In local areas of prime cropland less than 2% of the original prairie remains.

1. the fragmentation of native habitat caused by road building, resource extraction, residential development and cultivation.
2. the disappearance of prairie fires and the once massive herds of bison. Periodic fire and grazing followed by rest rejuvenated the land and resulted in a landscape diverse in native plants
3. the arrival of new and aggressive introduced (i.e., exotic) plants that displace native species
4. long-term over grazing by cattle in some areas and in others, a total lack of grazing.

First Nations lands contain islands of some of the remaining intact ecosystems.

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GATHERING PLANTS FOR FOOD & MEDICINES

- Always lay down tobacco in reciprocity
- Make sure there is enough plants for the 7th generation - do not over harvest
- Understand what part of the plant to harvest: roots, seeds, flowers etc and what time of the year and/or moon cycle to harvest for the highest medicinal properties and optimal results

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REVITALIZING INDIGENOUS AGRICULTURE: NATIVE PLANTS FOR FOOD AND MEDICINE

Glenna Abbott

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BACKGROUND INFORMATION

- Colonial impacts on traditional foods –bison, pass-permit system, residential schools loss of culture and traditions, oral history
- Fur Trade- Treaty Rations and diet related diseases- Lard, flour and sugar
- Current Land use on reserves
- Industrial Agriculture and its impacts on local ecosystems
- Clearing the Plains- Starvation tactics in Canada
- Northern, underdevelopment in resource rich climates

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REVITALIZING INDIGENOUS AGRICULTURE PROJECT (RIAP)- 2015-2017




Includes the list of all experimental crops that are being grown, including traditional medicinal plants, traditional medicinal and food plants, and traditional plants used in the organic garden food garden.

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Raspberry
Leaf: Feminine birth and aftercare, slow
Roots and Stems for child diarrhea, stomachache, boiled for fevers.
Fruit is good for heart

Giant Hyssop: powdered leaf is for cooling the heart, leaf is for dry cough, stem is for coughing and chest heart aggression.

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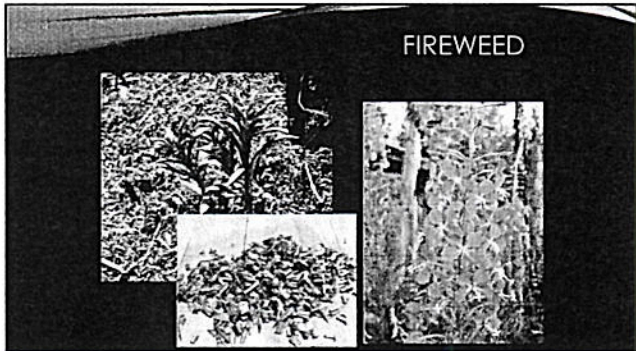
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GATHERING PLANTS FOR FOOD & MEDICINES



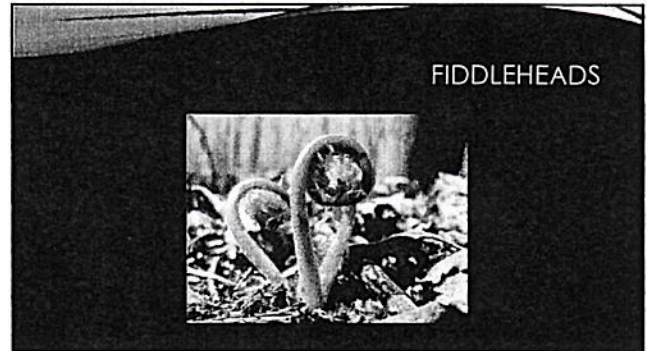
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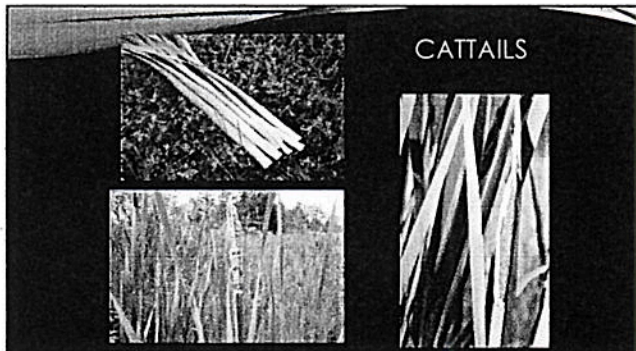
FIREWEED

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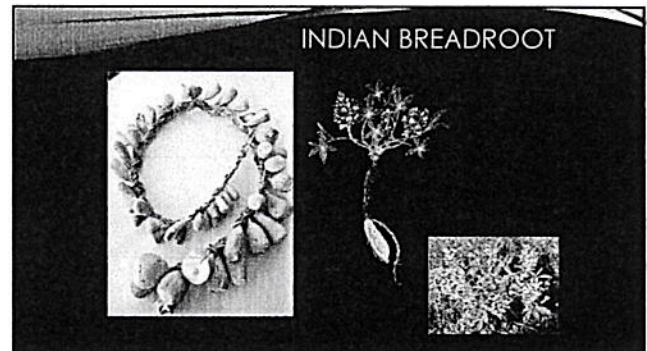
FIDDLEHEADS

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CATTAILS

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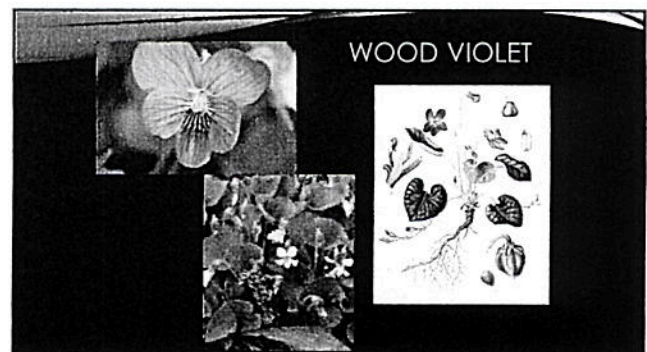
INDIAN BREADROOT

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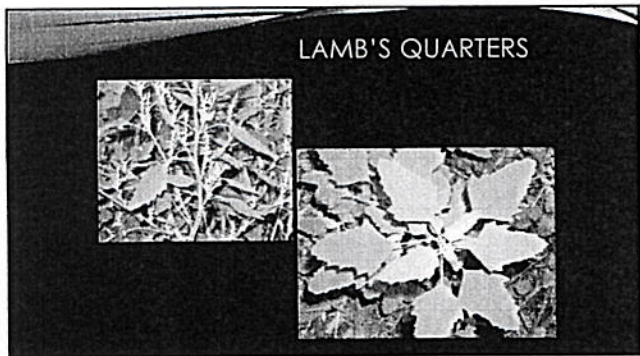
WILD LICORICE

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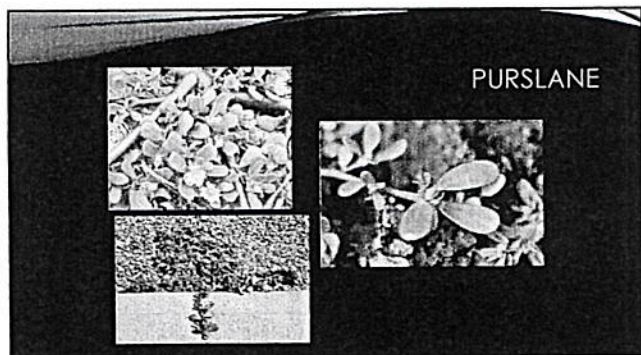


WOOD VIOLET

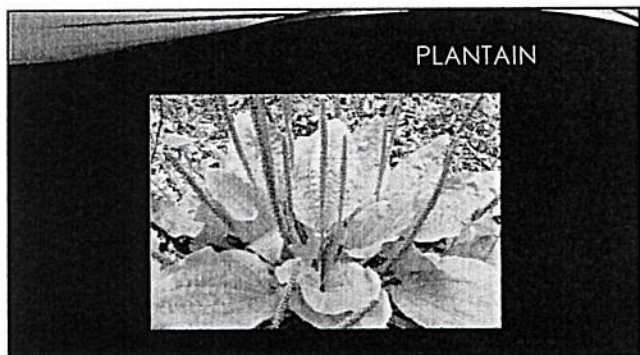
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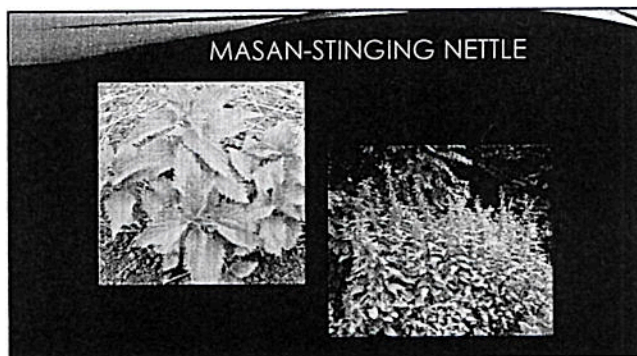
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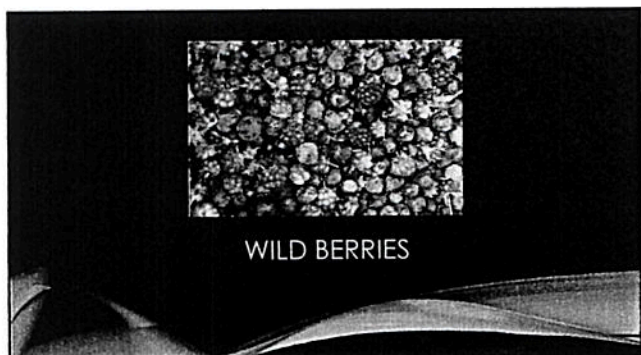
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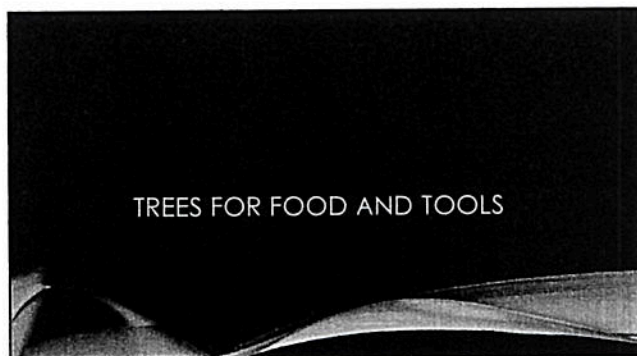
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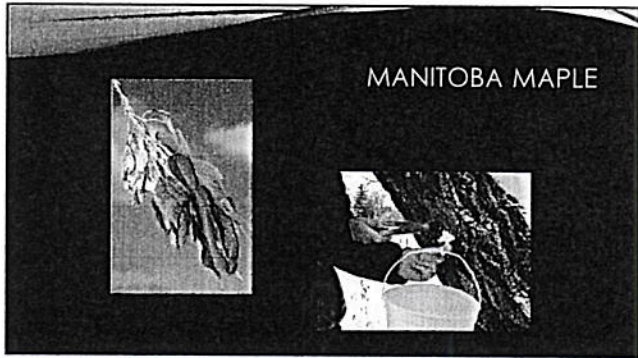
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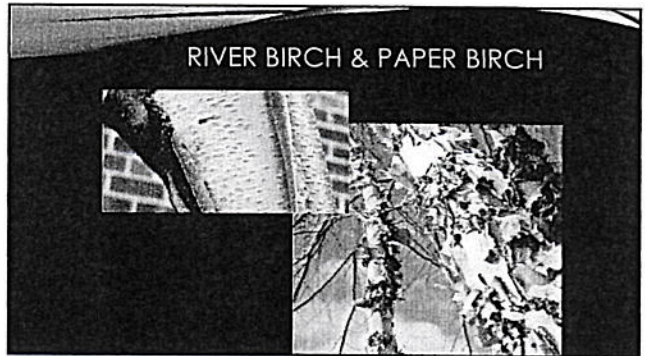
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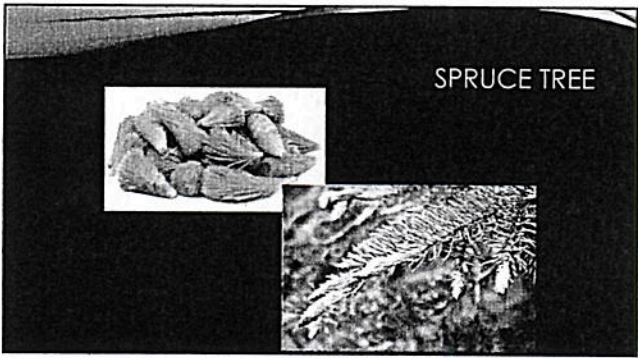
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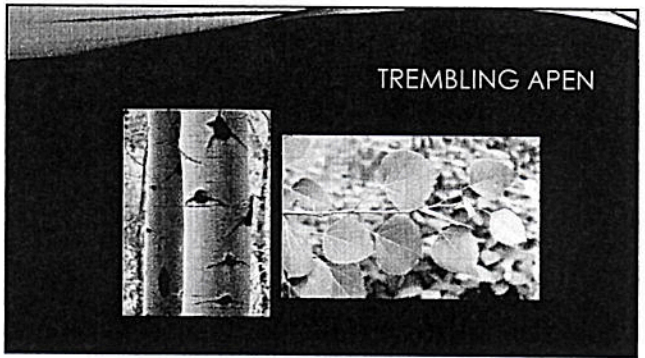
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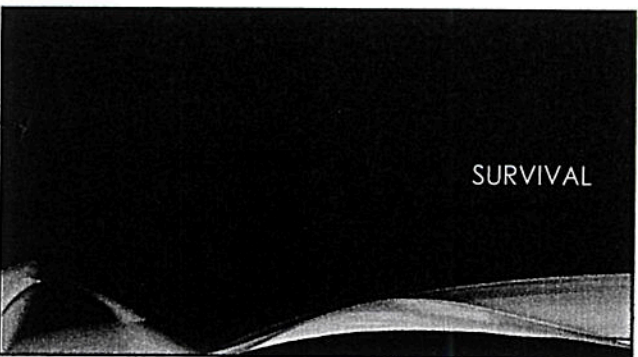
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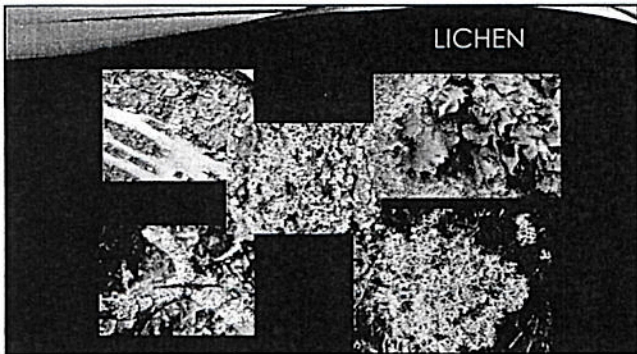
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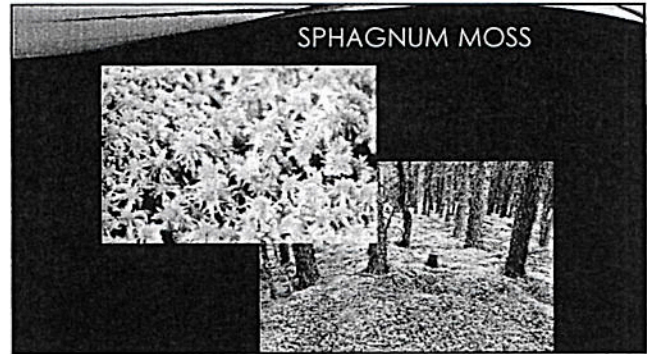
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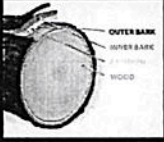
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TREES

- Done correctly the inner bark of most pine varieties, the slippery elm, paper-birch, black birch, yellow birch, red spruce, black spruce, balsam fir and the tamarack trees are all edible.

There are three ways to eat the inner bark:

1. Boiling
2. Frying
3. Drying and Pounding into Flour





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Indigenous Seeds and Traditional Gardening

Glenda Abbott

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93 Percent of the World's Seeds Have Been Lost in the Last 80 Years

1903	1983
<ul style="list-style-type: none"> • 500 varieties of cabbage • 400 varieties of peas and tomatoes • 285 varieties of cucumbers. 	<ul style="list-style-type: none"> • 28 varieties of cabbage • 25 varieties of peas • 79 for tomatoes • 16 varieties of cucumbers.
	

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Seed Saving Suggestions

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1. Know what to grow

- Start With Open-Pollinated Seeds
- Open pollinated varieties, aka OPs, are like dog breeds; they will retain their distinct characteristics as long as they are mated with an individual of the same breed. This means, with a little care and planning, the seeds you produce will be true-to-type, keeping their distinct traits generation after generation as long as they do not cross-pollinate with other varieties of the same species.

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Annual, Biennial, Perennial

- Not all plants flower, set seed, and die in a single growing season. Those that do, like lettuce, tomatoes, and peppers, are called annuals.
- Biennials, such as carrots and onions, don't flower until their second growing season, after they have gone through a cold period.
- Some long lived plants, like apple trees and asparagus, are perennial, surviving and flowering for many years.

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Learn About Species

- A species is a group of individuals that are able to reproduce together. In the garden, most crops are different species from one another, but not always. There are several species of squash and two distinct species of kale - meaning some varieties of these crops are not able to cross pollinate with each other. On the other hand, Cucumis melo, commonly categorized as a melon, also contains some varieties that are sold as cucumbers like 'Armenian' because fruits of the variety are unsweet and sometimes pickled.

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Start With Easy Crops

- Some crops like peas, beans, lettuce, and tomatoes are great for beginning seed savers. These annual, self pollinating crops require little to no isolation, and only a few plants are needed to reliably produce seeds.
- Grow Enough Plants

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Put A Little Space Between Varieties

- In order to produce seeds that are true-to-type, a little garden intervention is needed to prevent unwanted cross pollination between different varieties of the same species. For some crops like lettuce and peas, all that is needed is a little extra space between varieties. For others, more advanced methods can be used, including larger isolation distances, pollination barriers, or hand pollination.

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Grow Enough Plants

- Some crops have a hard time producing seeds when too few plants are around. Others can reproduce with just a single plant. If the population size of a seed crop is too small, some genetic diversity may be lost and over many generations; in time this can result in a noticeable decrease in plant stature, overall vigor, germination, and yield.

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Know When Your Seeds Are Mature

- For crops that produce wet fruits, the seeds are not always mature when the fruits are ready to eat. Eggplant, cucumber, and summer squash fruit are eaten when the fruits are immature and still edible, but before the seeds are actually mature. This means that seed savers need to leave a few fruits to fully mature in the garden when they want to save seeds. Dry fruited crops, like grains, lettuce, and beans, can be removed from the plant once seeds are dry and hard.

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Know How To Harvest Seeds

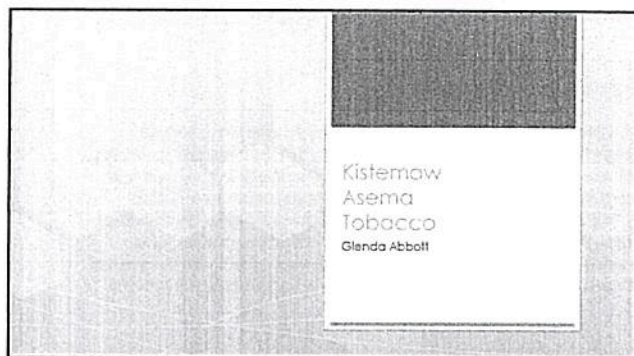
- Garden crops can be classified as either dry fruited or wet fruited. Collecting seeds from dry fruited crops, can be as simple as going out to the garden, handpicking a few mature seedpods, and bringing them into the house for further drying and cleaning. Fruits from wet fruited crops must be picked when their seeds are mature. The harvested fruits are either crushed or cut open, and the seeds are extracted from the flesh and pulp before the seeds are dried.

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Store Seeds

- Seeds are happiest when they are stored in a cool, dark, and dry place. A dark closet in a cooler part of the house or a dry, cool basement are both good spaces to store seeds for a year or two. Once properly dried, seeds can also be sealed in airtight containers and stored in the refrigerator or freezer for several years. The seeds of some crops are naturally longer lived. Tomato seeds and beans can be left for many years in adequate storage conditions, while onion and carrot seeds are notoriously short lived. Don't forget to label your seeds with the crop type, variety name, and any useful notes about your seed source, when you harvested the seeds, and how many plants you harvested from.

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Tobacco connects us to Culture

- According to the Elders, there was a time when the people of the earth were not living their lives in a proper manner and the Creator decided that he was going to do away with them. But, the eagle interceded on the human's behalf.
- The Creator said as long as there is still one person who lives their life in a correct way with cistemaw-(tobacco), the humans would be spared.
- So each morning the eagle goes out and flies over the earth to see if we live our lives in the correct way. As long as he sees that Indigenous people still use their tobacco and still use their language and follow the old ways, we will be all right.
- Using the left hand when holding tobacco is encouraged, because the left hand is closest to the heart.

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4 Sacred Medicines


Cedar Tobacco Sweetgrass Sage



96

Tobacco always comes first....

- o Tobacco opens the first doorway to all our teachings
- o One of the most fundamental medicines to carry is tobacco to express gratitude, prayers and make requests to all creation.
- o It is one of the daily connectors every person can use to live a good and healthy life



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Kinikinink
Tobacco mixtures

- o Use equal amounts except for yarrow, which will only be half
- o Use 2-4 or 6 ingredients
 - 1 Shaved red willow bark and inner bark
 - 2 Mullein leaves
 - 3 Yarrow
 - 4 Bear berry
 - 5 Mint
 - 6 Natural tobacco plants
- o You can also use: Hyssop, bear root, black willow, little root or colts foot

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Asema- Kistemaw-Tobacco


- o Sacred tobacco was given to the Nehiyaw - Anishinaabe so that we can communicate with the Spirit world. Tobacco is always offered before picking other medicines. When you offer tobacco to a plant and explain your reasons for being there, the plant will let all the plants in the area know your intentions and why you are picking them. Tobacco is used as an offering, a gift, and is an important part of Nehiyaw-Anishinaabe ceremonies.




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Supplies needed for growing tobacco:

- o Traditional tobacco seeds
- o Potting soil
- o 12-20 oz, disposable cups (clear preferred)
- o Clear plastic wrap
- o Rubber bands
- o Spray bottle filled with water
- o Scissors
- o Good thoughts



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To make your mini-greenhouse, take the disposable cup and fill it about half to two-thirds full of potting soil. It's good to use potting soil instead of dirt, because potting soil has been treated so it won't have bugs, disease, or weeds in it. Sprinkle five to eight seeds on top of the potting soil in the cup, spacing them to allow each room to grow.

Do not bury the seeds under the dirt as they need light to germinate. Use a spray bottle to spray the seeds with a light mist to water them.


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- o Make sure you spray enough water to make the soil wet. Cut a square of plastic wrap large enough to cover the cup with about an inch or more around the entire edge. Place the plastic wrap over the cup and secure it with a rubber band. Place the cup in a warm sunny area, or use a grow light. Make sure the soil stays moist, uncovering it and spraying as needed to keep it moist, but not drenched, since too much water can harm the roots.



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- o The seeds take about ten days to germinate (change from a seed to a seedling). Uncover the cup if the seedlings grow to the height the plastic covering.
- o Once the seedlings reach about six inches in height they can be transplanted outside when the soil has warmed and all danger of frost has passed. Dig a hole where each tobacco plant will be placed (tobacco plants like sunny areas).



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- o If you want to fertilize you can place fish guts or fish heads at the bottom of the hole, or use a liquid organic fertilizer. Carefully remove the plants from the cup and gently separate them from each other, being careful not to disturb the root structures.
- o Place a plant with roots in the hole and fill around the plant with potting soil to stabilize and support it. Water generously to ensure the roots take hold. Tobacco uses a lot of nutrients to grow.

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Flowers and Seeds

- o The plant will flower eventually. Flower buds will grow at the tops of the plant. When this happens, some people trim off the flower buds so the plant will focus its energy on growing leaves
- o The flower buds are where the seeds come from in the harvesting stage, so if you want seeds to plant next year, do not cut them off. The flower petals will fall and pods containing seeds will take form.


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- o About five to seven weeks after flowering, tobacco is ready to harvest. The leaves will mature from the bottom to the top. The leaves will turn from green to yellow and begin to dry out. The leaves can be picked as they ripen, or you can pull the whole plant up when the seed pods ripen and pull all the leaves off at one time.



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- o To cure the tobacco leaves, hang them to dry indoors. Do not hang the leaves near a heat source or they will cure too fast. The slower the curing process, the better. Leaves can take four weeks to a year to cure.

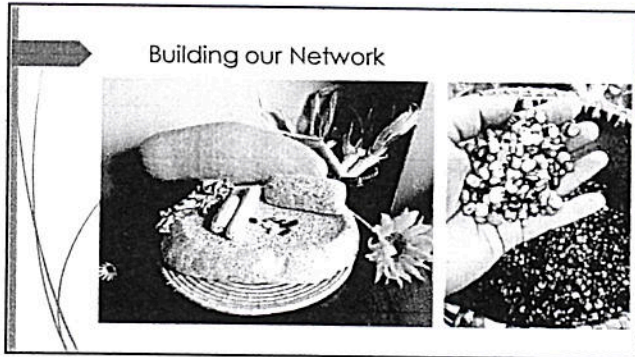


107

Guiding Principles of Tobacco Use

1. Always use with positive thoughts and feelings.
2. Try to use only traditional tobacco (if available).
3. Hold in your left hand, as this is the arm closest to your heart.
4. Do not use while under the influence of drugs or alcohol.
5. Make sure to let the person or persons know your request before handing them your tobacco, so they have the right to respectfully decline, if need be.

108



109

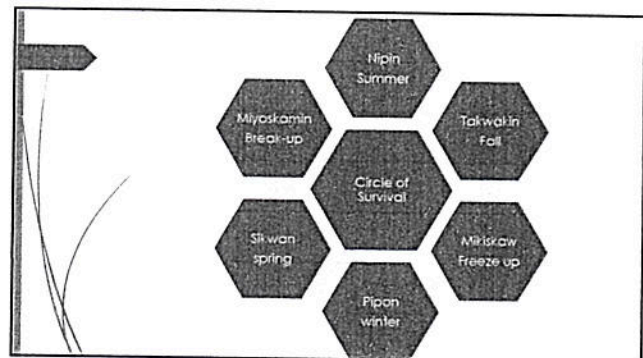
OPAWANCIKANASIS	FROST EXPLODING MOON	DEC-JAN Trees crackle from cold temperatures and extreme cold starts
KISIPISIM	THE GREAT MOON	JANUARY Animals do not move around much and leopards have little chance of catching them.
MUKISWIPISIM	EAGLE MOON	FEBRUARY Month the eagle returns
NISEPISIM	GOOSE MOON	MARCH Month the geese return and indication of the coming of spring
ATHIKEPISIM	FROG MOON	APRIL Arrival of warm weather and open water. Frogs begin to become active in ponds and swamps.
SASEPAAWIPISIM	LEAF SHEDDING MOON	MAY Month when the buds open
OPINYAWIPISIM	EGG LAYING MOON	JUNE Month when the birds and water fowl begin to lay their eggs
OPASOWIPISIM	FEATHER MOULDING MOON	JULY Month when young fowl are moulting
OHFANOWIPISIM	FLYING UP MOON	AUGUST When the young fowl are ready to fly
NIMTAKAMOWIPISIM	RITTING MOON	SEPTEMBER Month when the bull moose scrapes the velvet from antlers as a signal mating to begin
PIMAKAMOWIPISIM	MIGRATING MOON	OCTOBER Month when birds begin their flight south
KASEATNOWIPISIM	FREEZE UP MOON	NOVEMBER Month when lakes and rivers start to freeze
BIKOPWIPISIM	HOAR FROST MOON	DECEMBER Month when frost sticks to leaves and other things outside

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We will break into groups of 5 people
 Each will choose a recorder, & speaker(s)
 We will take 20 minutes to fill out the 6 Seasons- Circle of Survival sheets
 List the Seasonal activities that take place in each

Circle of Survival

111



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SWOT -Strengths, Weaknesses, Opportunities and Barriers-Threats

Complete the cycle of SWOT-B for Indigenous Food Security and Sovereignty & connecting our communities-Province-Nations to achieve this goal

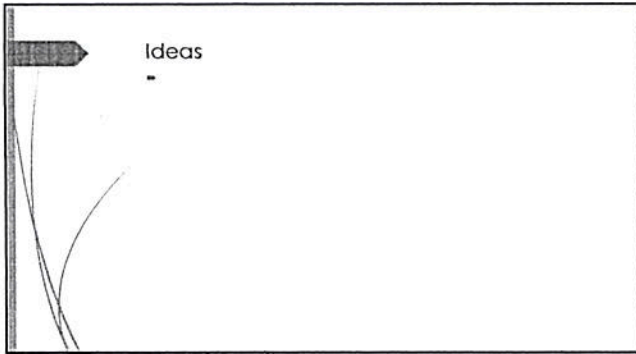
- Hunting & Fishing
- Cultivating
- Gathering

113

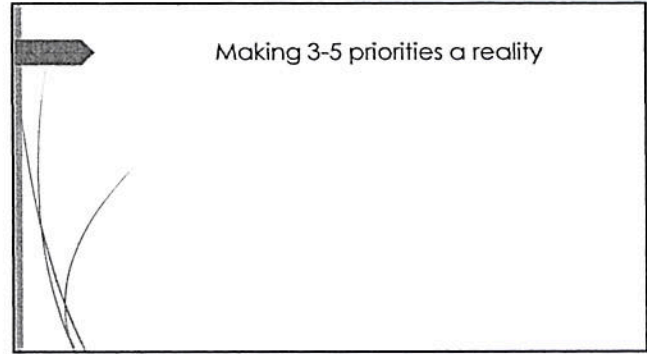
Brainstorm

- Given our mission and vision to build a seed network and/or food sovereignty network, what are the most important things we need to be doing over the next three years?

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Planning a garden for seed and for food:

A good-size beginner vegetable garden is about 16x10 feet and features crops that are easy to grow.

How Much and what to plant?

Step 1. Find out your Favorite Meals & What you're Buying

Step 2. What is your Garden Size & Growing Season?

After jotting down what you like to eat, the next step is to figure out what you can grow based on your growing space & season. Be realistic with your growing limitations. What is your local hardiness zone (when do you get your last spring and first fall frosts). Some vegetables like squash or potatoes or corn can take up a lot of space. Sometimes they're worth it, sometimes they're not. You need to decide what vegetables your family consumes the most and which ones you're able to grow.

Some garden 'theme' examples:

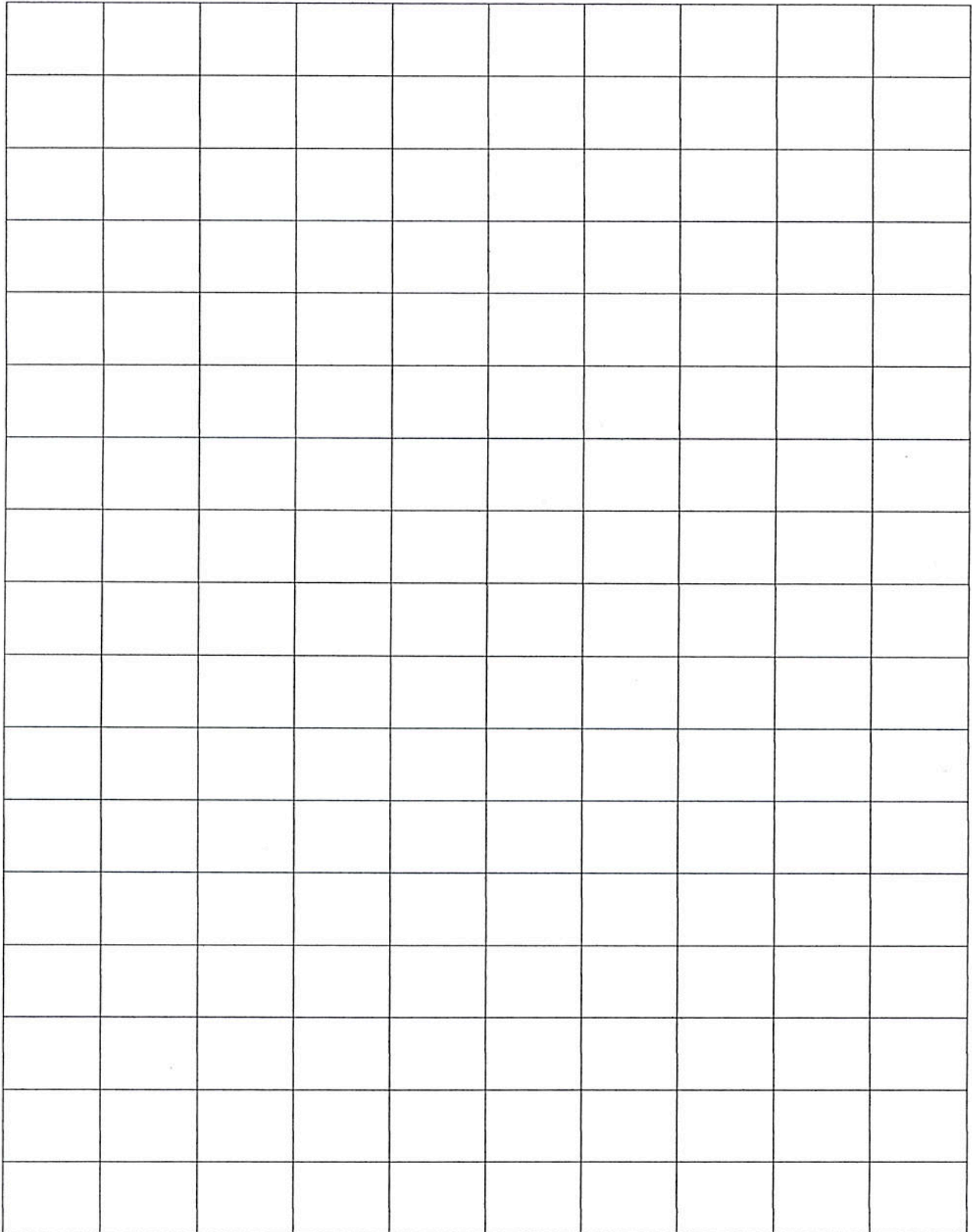
- Salad Bed: Lettuce, arugula, mesclun greens, radishes, scallions, cucumbers, tomatoes...
- Stir Fry Bed: Mustard greens, Bok choy, scallions, daikon radish, broccoli, carrots, kale..
- Italian Bed: Tomatoes, peppers, basil, spinach, fennel...

Staggered Planting of 2 weeks apart for more crops and rotate each year: Vegetables that may yield more than one crop per season include beans, beets (beet greens), carrots, cabbage, kohlrabi, lettuce, radishes, rutabagas, spinach, baby swiss chard, and turnips. (30-45 days)

See companion planting and spacing requirements on the following pages

Also see a general guideline for how many plants are needed per person on following pages.

Step 3: Sketch your Garden 10 x 16



Garlic Everywhere

Garlic should be planted throughout the vegetable and flower gardens as a natural insect repellent. Plant garlic near rose bushes and berry plants to repel the Japanese beetle. The garlic will not change the scent or rose blooms or the flavor the berries, but it will increase the essential oil production of both and enable the plants to produce more fragrant roses and juicier berries.

Cabbage Companions

Cabbage worms are the arch enemy of developing cabbage heads and they can be repelled naturally with by the right companion plants. Surround cabbage plants with companion plants with onions, dill, sage, beets, rosemary, thyme or lavender. Plant any vegetable in the cabbage family (broccoli, cauliflower, etc.) with the above mentioned companion plants.

Carrot Companions

Carrots repel moths that like to feed on chives, lettuce, peas and tomatoes. As a root vegetable, carrots also help keep the soil from compacting so moisture can be better absorbed by its companions.

Cucumber Companions

Cucumbers and sunflowers are good companion plants. Sunflowers produce very little shade, so cucumbers can thrive when planted at their base and sunflower stalks provide a strong support which cucumber vines can grow on.

Potato Companion

Potatoes benefit from having eggplants as their companion plants. The eggplant acts as a trap for the potato beetle. Eggplants and beans are good for companion planting as well.

Increase Tomato Flavor

Plant basil and oregano as companion plants near your tomatoes to increase tomato flavor. Onions, chives, parsley, asparagus, lima beans, carrots and nasturtiums are also companion plants for tomatoes and for each other.

Nitrogen Adding Plants

Growing vegetable plants need plenty of nitrogen in the soil to produce strong, healthy plants. Squash and nasturtiums are two plants that naturally add nitrogen to the soil. Nasturtiums are also edible. Peas love nitrogen-rich soil and do well when planted near squash.

Radishes Repel Insects

The scent of radishes repel insects throughout a garden and are especially beneficial when used as a companion plant for lettuce and cucumbers.































Marigolds Everywhere

If you only have room for one companion plant in your home garden, make it the marigold. Plant marigolds around the garden perimeter and between the tomatoes plants. Marigolds work hard to repel a variety of above and below ground insects.

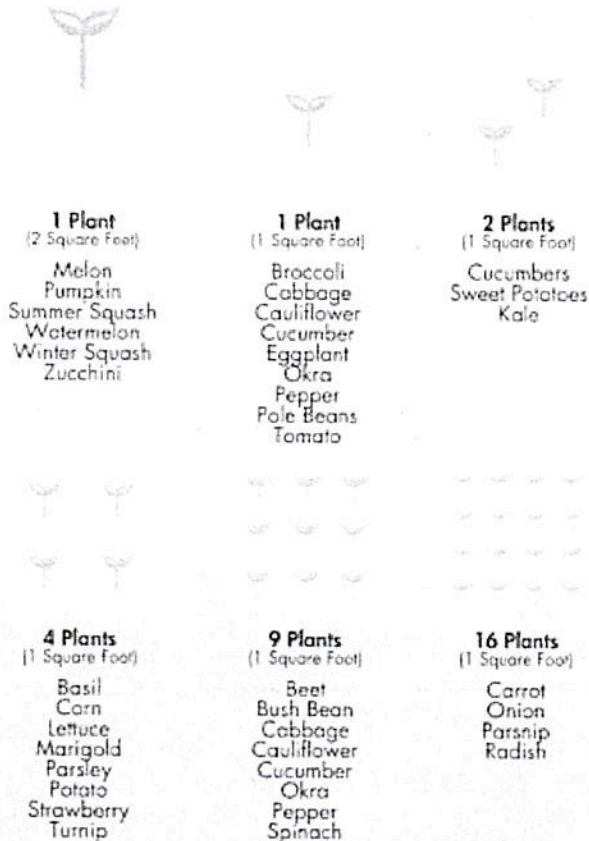
FULL CHART AVAILABLE: <https://homesteadandprepper.com/wp-content/uploads/2016/01/companion-planting-chart.jpg>

<https://www.windowbox.com/resources-links/companion-planting-chart-for-vegetables>

PLANTS GROW WELL TOGETHER	BENEFICIAL TO GARDEN IN GENERAL	COMBINATION HELPS BUG CONTROL	CARROTS WILL HAVE GOOD FLAVOR BUT STUNTED ROOTS	DON'T PLANT TOGETHER
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<p>BASIL</p>  <p>OREGANO, PEPPERS, TOMATOES, SAGE, THYME</p>	<p>BASILIC</p>  <p>BROCCOLI, CAULIFLOWER, LETTUCE, STRAWBERRY, TOMATOES, THYME, SAGE, BEANS, PEAS</p>	<p>PEPPERS</p>  <p>BASIL, CARROTS, CUCUMBER, OREGANO, PARSLEY, PEAS, ROSEMARY, SQUASH, SWISS CHARD, TOMATOES, SAGE, THYME, BEANS, BROCCOLI, CAULIFLOWER</p>
<p>BEANS</p>  <p>BROCCOLI, CARROTS, CAULIFLOWER, CORN, CUCUMBER, PEAS, ROSEMARY, STRAWBERRY, SWISS CHARD, TOMATOES, THYME, SAGE, CHIVES, GARLIC, LEEKS, MARIGOLD, ONION, PEPPERS</p>	<p>LEEKS</p>  <p>CARROTS, ONION, SPINACH, SAGE, THYME, BEANS, PEAS</p>	<p>ROSEMARY</p>  <p>BEANS, BROCCOLI, CARROTS, CAULIFLOWER, PEPPERS, SAGE, THYME</p>
<p>BROCCOLI</p>  <p>BEANS, CARROTS, CHIVES, CUCUMBER, DILL, GARLIC, LETTUCE, NASTURTIUM, ONION, ROSEMARY, SAGE, SPINACH, SWISS CHARD, THYME, OREGANO, PEPPERS, SQUASH, STRAWBERRY, TOMATOES</p>	<p>LETTUCE</p>  <p>BROCCOLI, CARROTS, CAULIFLOWER, CUCUMBER, DILL, GARLIC, ONION, SPINACH, SQUASH, STRAWBERRY, TOMATOES, SAGE, THYME</p>	<p>SAGE</p>  <p>BROCCOLI, CARROTS, CAULIFLOWER, BASIL, BEANS, CHIVES, CILANTRO, CORN, DILL, GARLIC, LEEKS, LETTUCE, MARIGOLD, MELON, NASTURTIUM, ONION, OREGANO, PARSLEY, PEAS, PEPPERS, ROSEMARY, SAGE, SPINACH, SQUASH, STRAWBERRY, SUNFLOWER, SWISS CHARD, THYME, TOMATOES, CUCUMBER</p>
<p>CARROTS</p>  <p>BEANS, BROCCOLI, CAULIFLOWER, CHIVES, LEEKS, LETTUCE, ONION, PARSLEY, PEAS, PEPPERS, ROSEMARY, SAGE, THYME, TOMATOES, DILL</p>	<p>MARIGOLD</p>  <p>MELON, TOMATOES, SAGE, THYME, SQUASH, BEANS</p>	<p>SPINACH</p>  <p>BROCCOLI, CAULIFLOWER, LEEKS, LETTUCE, PEAS, STRAWBERRY, SAGE, THYME, CILANTRO</p>
<p>CAULIFLOWER</p>  <p>BEANS, CARROTS, CHIVES, CUCUMBER, DILL, GARLIC, LETTUCE, NASTURTIUM, ONION, ROSEMARY, SAGE, SPINACH, SWISS CHARD, THYME, OREGANO, PEPPERS, SQUASH, STRAWBERRY, TOMATOES</p>	<p>MELON</p>  <p>CORN, MARIGOLD, NASTURTIUM, SQUASH, SUNFLOWER, SAGE, THYME</p>	<p>SQUASH</p>  <p>CORN, LETTUCE, MELON, PEAS, PEPPERS, SAGE, THYME, MARIGOLD, NASTURTIUM, BROCCOLI, CAULIFLOWER</p>
<p>CHIVES</p>  <p>BROCCOLI, CARROTS, CAULIFLOWER, PARSLEY, TOMATOES, SAGE, THYME, PEAS, BEANS</p>	<p>NASTURTIUM</p>  <p>BROCCOLI, CAULIFLOWER, CUCUMBER, MELON, TOMATOES, SAGE, THYME, SQUASH</p>	<p>STRAWBERRY</p>  <p>BEANS, GARLIC, LETTUCE, ONION, PEAS, SPINACH, THYME, SAGE, BROCCOLI, CAULIFLOWER</p>
<p>CILANTRO</p>  <p>SAGE, THYME, SPINACH</p>	<p>ONION</p>  <p>BROCCOLI, CARROTS, CAULIFLOWER, CUCUMBER, DILL, LEEKS, LETTUCE, PARSLEY, STRAWBERRY, SWISS CHARD, TOMATOES, SAGE, THYME, BEANS, PEAS</p>	<p>SUNFLOWER</p>  <p>CORN, MELON, SAGE, THYME</p>
<p>CORN</p>  <p>BEANS, CUCUMBER, DILL, MELON, PARSLEY, PEAS, SQUASH, SUNFLOWER, SAGE, THYME, TOMATOES</p>	<p>OREGANO</p>  <p>BASIL, PEPPERS, BROCCOLI, CAULIFLOWER, SAGE, THYME</p>	<p>SWISS CHARD</p>  <p>BEANS, BROCCOLI, CAULIFLOWER, ONION, PEPPERS, SAGE, THYME</p>
<p>CUCUMBER</p>  <p>BEANS, BROCCOLI, CAULIFLOWER, CORN, DILL, LETTUCE, NASTURTIUM, ONION, PEAS, PEPPERS, TOMATOES, THYME, SAGE</p>	<p>PARSLEY</p>  <p>CARROTS, CHIVES, CORN, ONION, PEAS, PEPPERS, TOMATOES, SAGE, THYME</p>	<p>THYME</p>  <p>BROCCOLI, CAULIFLOWER, STRAWBERRY, BASIL, BEANS, CARROTS, CHIVES, CILANTRO, CORN, CUCUMBER, DILL, GARLIC, LEEKS, LETTUCE, MARIGOLD, MELON, NASTURTIUM, ONION, OREGANO, PARSLEY, PEAS, PEPPERS, ROSEMARY, SAGE, SPINACH, SQUASH, SUNFLOWER, SWISS CHARD, THYME, TOMATOES</p>
<p>DILL</p>  <p>BROCCOLI, CAULIFLOWER, CORN, CUCUMBER, LETTUCE, ONION, SAGE, THYME, CARROTS, TOMATOES</p>	<p>PEAS</p>  <p>BEANS, CARROTS, CORN, CUCUMBER, PARSLEY, PEPPERS, SPINACH, SQUASH, STRAWBERRY, SAGE, THYME, CHIVES, GARLIC, LEEKS, ONION</p>	<p>TOMATOES</p>  <p>BASIL, BEANS, CHIVES, CUCUMBER, GARLIC, LETTUCE, MARIGOLD, NASTURTIUM, ONION, PARSLEY, PEPPERS, SAGE, THYME, CARROTS, BROCCOLI, CAULIFLOWER, CORN, DILL</p>

HOW MUCH SPACE IS NEEDED?



What to consider when growing for seeds:

Are there ways to work out trades for seeds and vegetables between neighbors in community?

Are there a couple neighbours who will grow the same varieties as you so you can swap seeds for genetically stronger seeds?

What seeds am I saving and what families do I need to avoid while planting?

Note: When starting with a few seeds, it will take approximately 4 seed generations to build up enough seed to be able to eat and save for growing next season

Pick the Right Location

- Plant in a sunny location.** Most vegetables need at least 6 hours of direct sunlight per day. The more sunlight they receive, the greater the harvest, the bigger the veggies, and the better the taste.
- Plant in good soil.** Plants' roots penetrate soft soil more easily, so you need nice loamy soil. Enriching your soil with compost provides needed nutrients. Proper drainage will ensure that water neither collects on top nor drains away too quickly.
- Plant in a stable environment.** You don't want to plant in a place that's prone to flooding during heavy rains, or in a place that tends to dry out a lot. You also don't want to plant somewhere where strong winds could knock over your young plants or keep pollinators from doing their job.

Crop	Per person	For a family of 4
Asparagus (1 plant/ft. of row)	5-10 plants	25 plants
Bush beans (2 plants/ft. of row)	12-15 plants	45 plants
Beets (Thin to 3 plants/ft. of row)	15-30 plants	90 plants
Cucumber (1 plant/2 ft. of row)	1 vine, 2 bushes	2 vines, 4 bushes
Carrots (Thin to 12 plants/ft. of row)	48 plants	144 plants
Corn (1 plant/ft. of row)	10-15 plants	40 plants (plant in blocks for best pollination)
Eggplant (1 plant/2 ft. of row)	2-3 plants	7 plants
Leaf lettuce (Thin to 3 plants/ft. of row)	24 plants	78 plants
Melon (1 plant/6 ft. of row)	1-2 plants	4 plants
Onion (4 sets/ft. of row)	12-20 sets	80-100 sets
Peas (6 plants/ft. of row)	15-20 plants	70 plants
Pepper (1 plant/ft. of row)	3-5 plants	8-10 plants
Potato (1 plant/ft. of row)	10 plants	40 plants
Spinach (Thin to 6 plants/ft. of row)	30-60 plants	180 plants
Squash (1 plant/6 ft. of row)	1-2 plants	3 plants
Tomato (1 plant/2 ft. of row)	2-4 plants	4-6 plants
Zucchini (1 plant/3 ft. of row)	1-2 plants	4 plants

Resources:

<https://www.almanac.com/vegetable-gardening-for-beginners>

<https://www.familyfoodgarden.com/garden-planning-how-much-to-plant/>

<https://www.gardengatemagazine.com/articles/vegetables/getting-started/calculate-how-many-vegetables-to-plant/>

<https://www.homesteadandprepper.com/guide-to-companion-planting/>