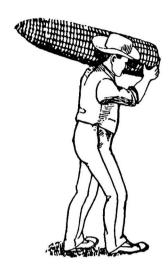
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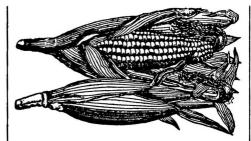
An Indian Garden

On November 5, 1492, on the island now called Cuba, two members of Christopher Columbus's crew returned to the Santa Maria and reported that the natives had a "sort of grain they called maiz which was well tasted, bak'd, dry'd, and made into flour." Little did they know how this discovery would change the world. Later the settlers at Jamestown, Virginia, and the Pilgrims in Massachusetts would have starved had it not been for the Indians and their corn.

The principal vegetables cultivated by the North American Indians were corn, beans, squash, sunflowers, tobacco, and gourds. The Indian men cleared the land by girdling trees and burning them down. Then the land was hoed, using shells, bone, or stones tied to a stick. After clearing the women began making corn hills. Each hill was an oval of piled dirt about 3 feet apart and in alternating rows. The planting season started when the leaves of the white oak were as large as a mouse's ears. Since corn wore out the soil, an Indian named Squanto developed the fertilization practice of placing a fish in each hill. Then, using a pointed stick 5 to 10 kernels were planted in each hill. Also planted in these corn hills were 3 to 4 kidney beans and 3 to 5 pumpkin or squash seeds. Their vines grew out to the sun between the mounds.



Vegetables to Grow



MAIZE OR CORN

Black Mexican or Black Sweet (a descendant of early Indian corn)
Stowell's Evergreen

Maize or corn is the greatest gift the Indians gave us. All six kinds of corn (pod, pop, flint, dent, flour, and sweet) were growing here before the settlers arrived. You may wish to grow sweet corn in your mound.

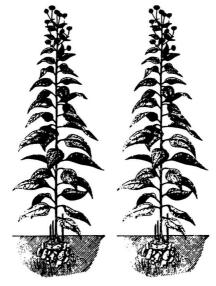
You may want to grow popcorn or ornamental corn (Indian corn). The early varieties of Indian corn were red, blue, yellow, white, black, orange, purple, and many shades in between. We use ornamental corn now just for decoration.



BEANS

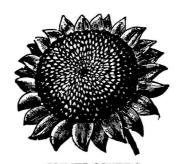
Kentucky Wonder Scarlet Runner

The Indians grew two types of beans—pole and bush. There were many sizes, shapes, and colors in these types. For your mound you may want a pole or climbing type.



JERUSALEM ARTICHOKE

The Jerusalem artichoke is a native of our Great Plains. The Italians gave it a name that meant "turning to the sun" that the English thought sounded like Jerusalem. In some supermarkets today these are called "sun chokes."



SUNFLOWERS

Mammoth Russian

The early European explorers noticed the yellow flowers turn their "faces" toward the sun, thus the name sunflower. The French explorer Champlain first reported this plant in 1605 after seeing it on Cape Cod being cultivated by the Indians. When Champlain visited the Indians near Lake Huron, he discovered them cultivating the sunflower. They used the fibers from their stalks and valued their seeds for oil and food.



PUMPKINS & SQUASH

Pumpkin Varieties

Connecticut Field (a direct descendant of the one the Indians gave to the Pilgrims)

Squash Varieties

Boston Marrow
Green Hubbard
Summer Crookneck or Warted
Crookneck
White Bush Scallop or White PattyPan

These are closely related. To keep squash and pumpkins for year-round winter use, the Indians cut them into strips and dried them in the sun.



GOURDS

Gourds were grown by the Indians for uses as mixing bowls, cups, ladles, rattles, and masks. Grow mixed varieties. Only the small fruited varieties mature regularly in southern lower Michigan.

Activities

In early spring when the leaves of the white oak are as large as a mouse's ears, prepare a mound of soil 2 feet wide and 1 foot high. In the center, place 6 to 8 kernels of corn. When the corn is 10 to 12 inches high, prepare two more mounds 2 feet wide and a foot high and plant bean seeds. Do the same for the squash and pumpkins on separate mounds. Plant sunflower seeds and artichoke tubers around the entire garden. Keep as far away from the central mound as possible. You need the maximum amount of light to reach the garden. Refer to the drawing below.

The beans may need help at first to climb the corn, so start the tendrils climbing on the stalks. Thin the corn to the four strongest plants, the squash to the two strongest plants in each hill, and the beans to the four strongest plants in each hill. Thin the sunflowers to about 1 foot apart and the artichokes about 6 inches apart.

Your crops will be ready to be harvested at different times. If you plant sweet corn, harvest it while it is still tender. Harvest the beans when the pods are 4 inches long for fresh or dry for seeds, and the squash (if summer) when it's 6 inches long. Harvest pumpkins, winter squash, and gourds when their leaves fall off, but before a heavy frost. The sunflower seeds will be ready when their heads turn brown and before the seeds drop off. The Jerusalem artichokes should be dug any time after the frost (until the ground freezes hard) and again in early spring after the ground thaws out and before the tubers start to grow. Jerusalem artichokes may become weedy so be sure to not let them multiply too much. Harvest the gourds carefully, making sure the stem is still attached. Store these in a cool dry place until you hear the seeds rattle inside.

2. Interview persons of North American Indian ancestry and ask about their gardens. Have they saved any seeds over the years? What are they? Where did they originate from? Maybe they will share some with you.

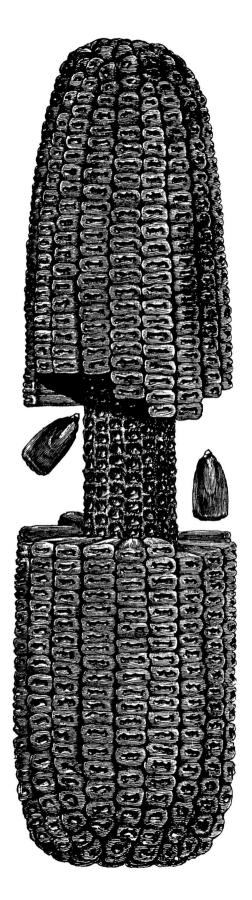
Perhaps you know someone in your community who makes corn husk dolls. Invite that person to your next club meeting to show you how to do it. If you can't locate someone, try the following directions.

- a. Save your corn husks from your corn.
 Use husks that are dry. If they are
 covered with mold, soak them overnight
 in a weak solution of bleach.
- b. When you are ready to start, soak the husks in water for a few hours.
- c. Fold several long strong husks in the middle. Tie a thin strip of husk or a piece of string near the fold to make a head.
- d. Under the tied strip put two or three smaller husks for arms. Tie another strip below the arms. Tie strips at each end for hands.
- e. Shape the bottom half into a long dress or legs. If the doll is a boy tie off feet.
- f. Use corn silk to make hair. Attach it with white glue.

If cornhusks cling tight to the cob, a hard winter is coming.







Try preparing some Indian foods. Fry some squash blossoms, have a popcorn snack, or make succotash. Ask North American Indians to share their recipes with you. Make an exhibit of pictures of your Indian garden and Indian recipes.

Succotash

The colonists quickly adapted a mixture of boiled beans and corn sweetened with bear fat as a staple dish. The Indians called it "m'sick-quotash," but to the English it was succotash.

1 strip bacon

1 onion chopped

2 cups shell beans*

1 cup water

2 cups corn

2 tablespoons butter or margarine

1 teaspoon salt

pepper

Put bacon, beans, salt, and onions, in saucepan. Add water. Bring to boil, and simmer covered 20 minutes. Stir in corn, butter, and pepper; simmer 10 more minutes. (Serves 4)

*Shell beans are immature beans with pods usually past the tender stage but before the seeds inside have become "dry" beans. Remove the pods to use.

Squash Blossoms

1 cup milk

1 egg

1 tablespoon flour

salt and pepper

2 to 3 dozen squash or pumpkin blossoms

1/2 cup cooking oil

Pick male squash blossoms in midday while they are fully open. To distinguish the male from the female blossoms, look for the bulge at the base of the flower below the petals. This bulge will grow into a squash and is the female blossom. The stem of the male blossom is thin. Pick with one inch of stem. Keep in ice water until you are ready to cook. Pat blossoms dry.

Mix together milk, egg, flour, and seasonings. Beat until batter is smooth. Gently mix the blossoms in batter. Heat oil in frying pan until hot. Fry blossoms a few at a time until golden brown. Drain and serve.

Jerusalem Artichokes

Jerusalem artichokes may be eaten raw or cooked. You do not need to peel them; just clean them with a stiff brush. Raw chokes may be used with dips, added to a salad, or tossed with cooked vegetables.

Herbed Chokes

1 pound Jerusalem artichokes (sliced or whole)

1/2 cup oil

2 tablespoons chopped chives

2 tablespoons chopped dill

1/4 cup cider vinegar

1 clove garlic, chopped (optional)

Boil artichokes in water about 20 minutes. Drain. Combine chokes and seasonings in skillet with oil. Saute for 15 minutes. Add vinegar and simmer 5 minutes longer. Serve hot.

S.O.S. (Save Our Seeds)

Many years ago, it was common for many gardeners to collect and save seeds from vegetables and flowers that they grew in their own gardens. Seeds of nonhybrid varieties of snap beans, lettuce, peas, and tomatoes can commonly be saved because these vegetables are usually self-pollinating. This means that seeds saved from these plants should grow into plants that are identical to the parent plants.

Seeds should not be saved from crosspollinating vegetables such as summer squash unless they are separated by a considerable distance from other squash and pumpkin varieties. Some insects, such as bees, carry pollen from one plant to another, and cross pollination usually occurs. Seeds saved from a fruit that developed from the ovary of a crosspollinated flower will grow into plants that will be somewhat different from either parent. For example, pollen from a male flower on a green zucchini summer squash could pollinate a female flower of a yellow straightneck summer squash. The seeds from that cross would produce a variety of seedlings that could bear yellow, striped, green, speckled, or greenish-yellow squash. The shape would remain the same. More interesting crosses would be a scallop summer squash crossed with a straightneck summer squash or a yellow crookneck crossed with either a green zucchini or a round or scallop summer squash.

Collecting, Extracting, & Storing Seeds

It is very easy to collect and extract pea and snap bean seeds. Just let the pods mature on the plant and, just as they start to split open, pick the best shaped long pods and put them in a protected area having good air circulation. Let them dry until they quit shrinking and are very hard. Be sure to protect them from birds and other animals.

Tomatoes are also quite easy to collect. Select nicely shaped, well-ripened fruits and mash the fruits through a screen or strainer to get rid of the clear, wet material around the seeds. Then dry the seeds in a protected area for many days.

In order to store seeds successfully, they must be very dry before being placed in a cool location (32°-50°F) in a tightly covered jar. Your refrigerator is fine. Place two tablespoons of powdered milk in a paper envelope and place the envelope in the jar. The powdered milk will absorb the moisture from the air inside the jar and keep the seeds dry. Be sure to label each container as to the kind and variety of vegetable and the date placed in storage. Check them occasionally because the seeds will mold if not dried sufficiently. Dispose of any seeds that mold.



Seed Longevity

How long a seed can remain alive varies with the kind of plant and storage conditions. Most garden seeds won't remain alive (viable) for over 20 years and some for only about one year. The table below shows how long some common vegetable seeds can be stored (longevity) under proper conditions.

Longevity of Vegetable Seeds*

1 year	2 years	3 years	4 years	5 years or longer
onions	sweet corn	beans	beets	cress
parsnips		carrots	cabbage	cucumbers
		peas	pumpkins squash	lettuce radishes
			tomatoes	
			turnips	

^{*}Although seeds may still germinate beyond these times, the seedlings probably won't grow as vigorously as from fresh seeds. Seeds would also probably need to be sown thicker than usual to get a satisfactory stand.



William J. Beal

Over 100 years ago, William J. Beal, professor of botany and horticulture at Michigan Agricultural College (now Michigan State University), wanted to know more about seed longevity. In 1879, Dr. Beal, the "granddaddy" of seed savers, mixed seeds of 23 kinds of plants (mostly weeds) with moderately moist sand. He placed the mixture of seeds and sand in 20 pint bottles and then buried them about 20 inches deep in the ground. The mouths of the bottles slanted downward to prevent water from filling the uncorked bottles. The bottles were buried near Beaumont Tower on the MSU campus in East Lansing. After 50 years, seeds of five plants still germinated. In 1980 the bottles were opened again and the seeds of three species germinated (moth mullein, common mullein and mallow). In 2000, the seeds in another bottle in this ongoing experiment will be tested.

Share Your Findings

If you "discover" an heirloom vegetable variety, you should report your find in the Seed Savers Exchange. This group will record your information and see that the variety is kept alive. If you would like more information or if you would like to become a member, write to Seed Savers Exchange, Rural Route 3, Box 239, Decorah, IA 52101.

Activities

- Collect and save seeds from at least two self-pollinating vegetables and then sow them next year and see if they produce fruits similar to their parent plants.
- 2. Interview gardeners who collect and save their own seeds. Find out what kinds they save, how long they have been doing it, and how they got started.
- You will discover that your heirloom seeds are very colorful. Make a display of them to show them off year round. Collect the seeds from your plants and dry them in the sun. You can purchase wooden "memory" boxes at craft stores and fill each section with a seed variety. Or you can make a box of your own from scrap lumber. Paneling works well because it is thin. Make a back and sides and dividers. Fill each compartment with your seeds. Now cover the box with glass. Attach a hanger and enjoy it all year. These make great gifts.
- If you meet someone who is a "seed saver"—that is, a person who grows his/her own variety, you will want to preserve not only the seeds but a little of the story too. If there is a special family recipe for this vegetable, collect it. Your group might want to compile these into a cookbook or a calendar. You might ask that the person write the recipe in his/her own handwriting. You could reproduce it in that form. Your club could then use these cookbooks or calendars for fundraising. If there are stories attached to the seeds or recipes, be sure and include them.

Garden Lore

Examples of garden lore appear throughout this bulletin. Following are a few more examples:

Cool as a cucumber Red as a beet

When you cross a bridge, make a wish and throw a raw potato into the water. Your wish will come true.

A corn cob worn behind the ear is good luck.

Your ears are like flowers—cauliflowers!

Peaches, plums, pumpkin butter, Little Johnny Green is my true lover, Little Johnny Green, give me a kiss, When I miss, I miss like this.

(Jump rope rhyme)

If wishes were horses, Then beggars would ride; If turnips were watches, I'd wear one by my side.

Peter, Peter, pumpkin eater. Had a wife and couldn't keep her; He put her in a pumpkin shell And there he kept her very well

Hot boiled beans and very good butter, Ladies and gentlemen come to supper.

What's the difference between a gardener and a billiard player:

One minds his peas and the other his cues.

Activities

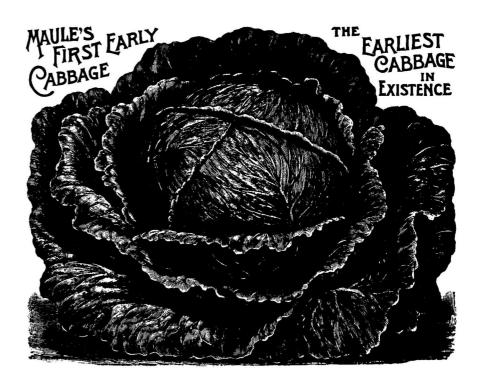
Collect garden lore on short-item
cards. Then send the cards or copies
of the cards to 4-H FOLKPATTERNS,
The Museum, Michigan State University,
East Lansing, MI 48824. Or publish a
booklet of "Garden Lore in ______
County." If possible include photographs
of gardens and gardeners you have interviewed.

At a county fair, a harvest festival, or another community event, set up a folklore collecting center (see 4-H 1506, FOLKPATTERNS 4-H Leader's Guide, page 22). Print some garden sayings on posterboard to catch people's attention. Then ask them to write down their garden lore on short-item cards. Send the cards to the 4-H FOLKPATTERNS office at MSU.

Why does Santa Claus have three gardens? So he can hoe, hoe, hoe!

Meet my friend Rudy Baga. Did you ever see a celery stalk? Or a tomato paste? Or an egg plant? Or a heart beet? Do you carrot all for me? These and many other "vegetable" jokes have been around for years. They are kept alive from one generation to another by passing them along by word of mouth. See how many jokes you can find. Who told them to you? Where did they come from?

One for the blackbird,
One for the crow,
One for the cutworm,
And one to grow.



The Harvest



Reaping the Rewards

Harvest time—the main reason for planting the crop. The time to harvest depends on several things. Sometimes the gardener will harvest most of the crop when it is fully mature. But the gardener will also let certain plants "go to seed" to save the seed for the next year. Some people harvest as they planted—in the dark or the light of the moon. They carefully check the crops for clues of ripeness. Watermelons are thumped. Tomatoes are squeezed. Beans and peas are lightly pulled. If they break off, they are mature enough to pick.

When the harvest was completed, it was time to celebrate! These celebrations included festivals, "bees," fairs, and markets. Festivals can be both religious and social in nature. Thanksgiving is perhaps the best-known religious observance of the harvest season in America. Harvest balls or dances used to be popular. Garden shows, festivals, and fairs are more common today. Many festivals celebrating the harvesting of a special crop are held throughout our state. These include events such as husking bees, asparagus festivals, and rhubarb festivals. Each centers around its theme based on a food important to the area.

Another way in which food production and harvesting are still celebrated is through exhibition and competition at county fairs. Here the harvested crops are either shown fresh or prepared into tasty dishes. These can be seen and appreciated by the entire community. The growers and processors receive ribbons as an award for their efforts. Fairs also may provide opportunities for selling the harvested food.

Activities

If there is a special food festival in your community, interview someone who can tell you how it started. Is there a special recipe that goes with the celebration? What unusual or different kinds of vegetables do various ethnic groups grow? How are these preserved in a traditional way?

Perhaps you will want to interview someone who remembers a harvest celebration, like a husking bee, that is no longer observed. Have them describe the celebration to you.

You may want to have a harvest festival to show off your produce. Invite your family and the persons you interviewed. You may want to enter your produce at the county fair, a mall show, Achievement Days, local garden contests, or a project in a science fair. You may wish to enter one of your projects in the Young America Garden Contest. If you have taken photographs, you can explore 4-H photography project activities or enter the National Junior Horticulture Association (NJHA) Photo Contest.

Arrange a display of garden photographs you have taken. Pictures could be taken of the following:

- How people protect their gardens from pests (scarecrows, metal pie pans, etc.)
- Methods used in planting (companion planting, etc.)
- Special homemade gardening tools
- Especially beautiful or bountiful gardens
- Clothes or outfits people wear while gardening
- Gardens made in unique locations (alleys, rooftops, patios, windowsills, etc.)

Photos should be labeled with location of garden, gardener's name, date, and photographer's name. After the display is over, photographs could be submitted to the 4-H photography project activities (in-

formation available from county Extension office) or to the NJHA Photo Contest.

Arrange for a display of photos of community or family events related to harvest celebrations. You could also arrange a show-and-tell table. Ask people to bring in photographs from family albums, awards won from county fair entries, newspaper clippings on past local harvest events, garden diaries, old seed catalogs, old fair books, garden implements, etc.

Report your heritage gardening findings. If your local newspaper carries a regular column on gardening, ask the columnist to attend and report on your harvest festival. Make photocopies of recent garden columns and of columns written 10, 25, 50, or even 100 years ago. Make a display of these for your harvest festival or for the fair.

From Garden to Gullet

If you plan on having a harvest festival or a special dinner celebration at the end of your heritage gardening project, the following activities are some suggestions for the big day. You can do these individually or as a group.

Activities

Roast some pumpkin and sunflower seeds:

Sunflower Seeds

Pick the seeds from the mature sunflower heads. Dry them in the sun for a few days, or spread them out on cookie sheets in a sunny window. Sprinkle some vegetable cooking oil lightly on the seeds. Lightly salt the seeds. Bake them in a slow oven (300°F) until dry, then split the shells open to remove the "meat." Salt to taste. You may remove the shells before roasting; do whichever you find easier.

To cure a wart: rub your warts with a kernel of corn, and then feed the kernel to a black chicken.



It is bad luck to keep a pumpkin in your bedroom overnight.



Make a wish while eating a new potato and it will come true.

Pumpkin Seeds

Save the seeds from your Halloween pump-kin. Wash the seeds to remove the pulp. Soak the seeds in salted water overnight (2 teaspoons salt to each cup water). Drain and pat dry. Spread the seeds on a cookie sheet and add 2 tablespoons vegetable oil for every 2 cups of seeds. Add 1 to 2 teaspoons salt. Bake at 250°F for 1½ hours or until dry. Crack and remove the shells before eating.

Make a pumpkin punch bowl. Thoroughly clean out a pumpkin, making sure to remove all the pulpy strings. Paint a jack-o-lantern face on the outside using felt markers. Refrigerate the pumpkin until you are ready to serve. Pour cold cider or other punch into the cold pumpkin. You are ready to serve!

Another decoration to use for your festival is the "green-haired potato." Using a big potato, scoop out a hollow in the top and slice off the bottom so that it will stand upright. Line the inside of the hollow with cotton. Stand the potato in a dish of water. Sprinkle cress seed into the hollow. Keep it watered, and within a few days the potato will sprout a head of hair. You can give the potato eyes, ears, and a nose with cloves or anything that will stick into the potato.

Make a flower pot salad bar for your festival. You will need large clay flower pots. Line these with clear plastic wrap, letting the edges of the wrap hang over so they can be secured with tape. Fill the flower pots with fresh vegetables (one variety for each pot), salad dressing, croutons, sunflower seeds, dips, chips, and crackers.

Pioneers often carried parched corn 5. in their pockets to munch on while traveling. They learned this from the Indians. You can make parched corn for your festival. Take two ears of dried corn -this is corn dried right on the cob. Remove the kernels from the cob and place them in a hot iron skillet with 1 tablespoon vegetable cooking oil. Stir with a spoon and shake the pan back and forth at the same time. When the corn kernels swell and turn a rich golden brown color thev are finished. Don't let them burn. Serve hot or cold. These make great snacks. If there are any kernels left, store them in an airtight container.

6. Read the following folk tale about Stone Soup.

Three soldiers were passing through a French village on their way home from the wars. The peasants saw them coming and quickly hid all their food. The soldiers went from house to house asking for food. Alas, the villagers had none. The soldiers announced, "Since there is no food we'll have to make stone soup." They filled a huge pot with water. In it each soldier placed a stone. The soldiers said, "Oh, it would be so nice to have some carrots." Some carrots appeared. "A good stone soup needs some cabbage." Some cabbage appeared, and one by one the villagers brought out their stored food. The soup smelled so good and was fit for a king! Soon out came the fiddles, bread, and cider. The people ate and danced far into the night. In the morning the villagers thanked the soldiers for all they had taught them. They said, "We'll never go hungry again since we know how to make soup from stones."

You too can make stone soup. Have everyone contribute their vegetables to one huge pot.