



Garden Box Guide



Introduction

The reality surrounding food security became urgent as COVID-19 forced measures such as school closures and social distancing restrictions. Business as usual changed significantly, and Nutrien’s focus with Community Partners shifted to identifying how we can support communities in the midst of a global pandemic.

Nutrien’s Sustainability and Strategic Inclusion team reached out to begin discussions about supporting the creation of community/family gardens as a COVID-19 response plan. The purpose being to serve as an immediate action to enhance the capacity for local food security.

Gardens also limit future exposure to COVID-19 as food becomes available throughout the growth cycle.

A collaborative effort between Nutrien, leaders at Saskatoon Tribal Council and File Hills Qu'Appelle Tribal Council, and our collective partners/networks helped to identify the most reasonable options that would lead to successful garden development, planting and harvesting of sustainable food.

This guide includes information for initial planning through to maintenance and harvest in raised beds, but the information is applicable for in-ground vegetable gardens as well.

We hope that this guide can serve as a model of success to support the ongoing development of community/family gardens in the future.



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What you will need:

- Cultivator
- Trowel
- Garden Gloves
- Garden Hose
- Spray Nozzle
- Garden Box
- Landscape Fabric
- Seeds
- Seed Markers



Recommended Basics



Gardening in raised beds

Raised beds have the potential to warm up faster in the spring so you can plant in them sooner. The sun may warm up the root area faster than if the plant was grown directly into the ground. All gardens are subject to weather conditions for that year, but raised beds may allow for layering of different soils, soil alternatives and fertilizers to customize your growing experience.

Choosing a site

Choose a flat, level, sunny spot to place your garden box and the rain barrel, preferably facing South or East. The minimum requirement you need is about eight to 10 hours of direct sunshine each day.

Setting up your garden box

Once you have chosen your site, lay down your landscape fabric first. The landscape fabric helps to prevent weeds. Set your garden box directly on top of the landscape fabric and make sure all posts are located on the landscape fabric. This means the bottom is fully covered.

Preparing the soil

If purchasing soil, use a 60% top soil; 30% compost; 10% potting soil mixture. In future years or if using existing soil, you will have to prepare your soil for gardening before planting your seeds. This includes breaking up large pieces of soil, adding organic matter (like shredded paper, coconut fiber or peat moss), and nutrients.

Rainbarrel set-up

If you are setting up a rain barrel, you can place it under an eavestrough or out in a open area for rain to fall through the screen opening. Attach a faucet attachment to the bottom of the barrel, with hose threads facing out. Attach your hose to your faucet. Attach your spray nozzle to your hose. The faucet has a on and off valve just like your regular household outdoor tap. When its time to water your garden ensure there is water in your barrel, and simply turn on the flow to the hose, then just use your nozzle to water the garden.

Fertilization

If you are adding broadcast fertilizer, be it compost or a non organic alternative (preferably slow release or water-soluble), add it with the spring tilling. If you are fertilizing only the planting area, fertilize as you put down your mulch.

Growing Tips for Common Veggies

Now that you have your garden, it's time to make a plan for the plants!

Beans



Beans are legumes. This means that they pull nitrogen from the air into the soil and are actually creating fertilizer. You should direct sow beans into the garden as soon as it is warm enough; usually late May or early June. If beans are allowed to ripen all the way to the fall, you may be able to collect bean seeds to sow the following spring.

Sow seeds 1-2" deep, 2-3" apart, in rows 18-24" apart.
Exposure: Full-sun Zone: 3 and warmer

Carrots



Extremely easy to grow, despite the fact that the seeds are very small. Carrot seeds should be direct sown in the garden, and prefer in a warm, sandy loam. Carrots should be left in the ground as long as possible.

Direct sow the tiny seeds $\frac{1}{4}$ " deep, 4 seeds per inch.
Exposure: Full-sun Zone: 4-10

Corn



Corn should be direct sown where it is to grow, in short blocks rather than long rows. Corn is also going to get quite tall, so be careful where you place it. It grows fast and is quite reliable. This is a good choice if you are new to gardening.

Plant 1-2" deep. Sow seeds around 3" apart, in rows 24-36" apart.
Exposure: Full-sun Zone: 4-8

Cucumber



Cucumbers are very easy, and you can either direct sow them or you can start them indoors in mid to late April. They need a warm, sheltered spot and will do best if they are watered and loved. The more you pick, the more they produce!

Sow 3-4 seeds 1 inch deep in each spot you want a plant to grow.
Space plants 9" apart in rows 36" apart.
Exposure: Full-sun Zone: 4-11

Lettuce



Lettuce grows extremely fast, and is ready to harvest very quickly. Lettuce wants cool temperatures and should be sown as early as possible. Extremely easy, very rewarding. Even if everything else were to fail, you are likely to succeed with lettuce!

Sow seeds $\frac{1}{4}$ " deep. Space or thin looseleaf varieties to 8-10" apart.
Space rows for all types 18-36" apart.
Exposure: Full sun to partial shade Zone: 4-12

Potatoes



Potatoes are available in an immense array of colors and shapes, and require very little care in the garden. The only problem with potatoes is that they do take up considerable room. Potatoes are usually grown from “seed potatoes”

Plant in well-drained, loamy soil. Plant 3.5" deep, space 12" apart, rows 20cm (8") to 30cm (12") apart.

Exposure: Full-sun to Part-sun Zone: 1-10

Zucchini Squash



Extremely rapid growing, zucchini squash is delicious and rewarding but it does take up a lot of room in the garden. In a particularly warm year, you can direct sew them, or start them indoors in late April or early May. Easy and gratifying.

Sow seeds 1" deep. Sow 3 seeds in each spot you want a plant to grow. Space zucchinis no less than 18-24" apart in rows 36-48" apart.

Exposure: Full-sun Zone: 2-12

HOW DOES YOUR EDIBLE GARDEN GROW?

ADD THREE SISTERS TO YOUR FAMILY AND CELEBRATE FIRST NATIONS HERITAGE. EARLY AGRICULTURE IN NORTH AMERICA TOOK ADVANTAGE OF THE GROWING SYNERGY AMONGST PLANTS. YOU CAN DO THIS TOO BY PLANTING A THREE SISTERS GARDEN - A MEDLEY OF CORN, BEANS AND SQUASH.

CORN GROWS TALL IN THE CENTRE.

BEANS CLIMB THE CORN STALK WHILE DRAWING ENERGY FROM THE SUN AND CONVERTING IT TO NITROGEN FOR THE SOIL AND PLANT ROOTS.

SQUASH PROVIDES SHADE FOR THE PLANTS' ROOTS WHILE ALSO KEEPING THE SOIL COOL AND MOIST.



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Garden Care



Watering

Take advantage of rain water. When its time to water your garden ensure there is water in your barrel, and simply turn on the flow to the hose, then just use your nozzle to water the garden. To decide if your garden requires more water, put your fingers in the soil about 1" in depth and feel it. If it's dry, it's time to water!

Tip: if possible, direct runoff from your roof into the rain barrel to collect water that would otherwise be wasted!

Regular Weeding

Start off early in the season and remove weeds when they are small before they become established. This will save you a lot of time in the long run. You can remove your weeds by hand and use your trowel for support. With your trowel, use a chopping motion and run it along and just slightly below the surface of the soil. This should help you cut or surface (especially when they are small) weeds. Weeding should be done weekly throughout the growing season.

Pests & Bugs

Continue to monitor your garden as it grows, inspect all plants and discard any that are diseased. Check all seedlings for pests (aphids, white flies, spider mites, etc). If you have a questionable or unknown plant, move it away from the other plants until you're sure it's healthy.

More Information

See additional resources provided at the end of this manual for more helpful resources.

As we harvest nutritional food from the garden, it is important to remember that the nutrients in the soil need to be replenished for next year's crop.

Did you know that plants require 17 essential nutrients and the ones needed in the most quantity are N (nitrogen), P (phosphorus), and K (potassium)?



N - P - K
Nitrogen Phosphorus Potassium

Beans



Pick beans when the pods are plump and full but have not yet become very thick, woody, and wrinkled.

Carrots



Leave carrots in the ground as long as possible, in order to sweeten them. October is usually a good time to dig carrots.

Corn



Corn develops in an "ear" or a "husk". These are ready when they feel firm and solid, and the little tassels at the end have dried up and are no longer silky to the touch.

Cucumber



Cucumbers should be picked often to maximize production.

Lettuce



Pretty much the same as kale, though some people like "baby lettuce" and prefer to harvest it at the smaller stage.

Potatoes



Potatoes are ready to dig when the tops start dying off or 3-4 weeks after flowering (depending on variety).

Zucchini Squash



Zucchini squashes should be picked when they are young and tender; not more than 4-6" long. Pick often and enjoy!

ENJOY YOUR HARVEST!

- Cook delicious meals using ingredients from your garden
- Share with friends and family
- Preserve vegetables to enjoy throughout the year



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Putting your garden to bed for the season

Once the growing season is finished, there are a few jobs left to do before the snow flies. You can remove all of your plants now too, and compost them. This would leave your soil ready to be worked first thing in the spring. In the case of an annual plant, the roots will die and compost deeply underground to improve your soil. This is especially helpful in raised beds. Clean up the rest of your garden, and ensure you take the time to thoroughly clean your tools and oil them as necessary before storage so they are ready for spring.

Additional Resources:

Compost Council of Canada: Additional resource on using compost and garden care. http://www.compost.org/wp-content/uploads/2020/05/Plant_Grow_Share-a-Row_Guide_2020.pdf

Nutrien's Youth Education Programs: Access resource to learn more about youth agriculture education opportunities and resources. www.nutrien.com/sustainability/community-investment/education-programs

Nutrients for Life Canada: Access resource for activities and to learn more about soil and keeping it healthy. <https://www.nutrientsforlife.ca/>

Little Green Thumbs: Access tips and simple activities that connect your garden to core academic subjects. <https://www.littlegreenthumbs.org/resources/>

Growing tips for common veggies:
<https://www.growarow.org/tips-on-growing-vegetables>

This guide is a collaborative initiative that would not be possible without the support of the following partners:

- File Hills Qu'Appelle Tribal Council
- Saskatoon Tribal Council
- Agriculture in the Classroom Saskatchewan
- Compost Council of Canada
- FHQ Developments
- Little Green Thumbs
- Nutrien
- Nutrien Ag Solutions
- Nutrients for Life Canada
- Skyline Exhibits Alberta

Questions? Contact Sustainability@Nutrien.com

Happy Growing!