

family  
**Vegetable  
Garden**  
Series

EXTENSION BULLETIN E-624(7)

# Root Crops

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Root crops are vegetables such as beets, carrots, radishes and turnips which are grown for their roots. They are high in vitamins, but low in calories. We eat the roots either raw or cooked. Root crops are very easy to grow and few insects or diseases bother them.

## BEST VARIETIES MEAN SUCCESS

These varieties grow best in Michigan. Choose them when buying your seeds.

VEGETABLES	VARIETY	SPROUTING TIME (days)	GROWING TIME (days to harvest)
Beets	 Ruby Queen	7 to 14	60
	Detroit Dark Red	7 to 14	63
Carrots	 Pioneer	14 to 21	67
	Nantes	14 to 21	68
	Spartan Bonus	14 to 21	77
Parsnips	 All America	7 to 25	105
	Model	7 to 25	120
Radishes	 Champion	4 to 7	28
	Cherry Belle	4 to 7	24
Rutabagas	 American Purple Top	4 to 14	90
	Laurentian	4 to 14	90
Turnips	 Just Right	3 to 7	40
	Tokyo Cross	3 to 7	35

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## ROOT CROPS NEED:

- light rich soil. In hard crusty soil roots will grow twisted and be short and tough.
- room to grow.
- sunshine most of the day, but they can grow in a spot that gets some shade.
- plenty of water.



## GET READY TO PLANT

Root crops are cool season crops and do best when grown during cool weather. Except for turnips and rutabagas, they should be planted early in the spring (late March to early April). Rutabagas and turnips are usually planted in June or July respectively for a fall crop (another cool time of the year). Follow directions on the seed packet.

Select a spot in your garden that gets at least 8 hours of sunlight a day.

Spread one pound of fertilizer such as 5-20-20 for every 100 square feet before the soil is turned over and another pound per 100 square feet after spading or plowing.

Dig down into the soil with your shovel for 10 to 12 inches and turn over the soil. Remove all stones and other trash. Crumble the soil with your hoe until it runs easily through your fingers. If available, work some peat moss, compost or rotted manure into the soil with a hoe.

## PLANT STEPS

1. Mark off straight rows 18 to 24 inches apart (6 to 12 inches for radishes).
2. With your hoe make a shallow furrow  $\frac{1}{2}$  inch deep along each row.
3. Sprinkle the seeds into the furrow putting 15 to 20 seeds in each foot of row.
4. Rows of slow germinating kinds (beets, carrots, parsnips) are often marked with a few radish seeds—just sprinkle a few radish seeds in the furrow along with the other seeds before covering. Radish seeds germinate quickly and will let you know where the row is.
5. Cover the seeds lightly with fine, crumbled soil mixed with peat moss or vermiculite if you have it.
6. Sprinkle water over each row and keep the rows damp until the seeds sprout.

## THINNING YOUR PLANTS

When your plants have grown several inches, you should thin out some of the plants to make room for the best ones to grow large. Leave the biggest plants and pull out the little ones in between. Sometimes the thinnings are large enough to eat.

### THINNING RECOMMENDATIONS

VEGETABLE	WHEN TO THIN (Height-inches)	HOW FAR APART (inches)
BEETS	2" HIGH	2-3" APART
CARROTS	3" HIGH	3-5" APART
PARSNIPS	4" HIGH	3-4" APART
RADISHES	2" HIGH	1-2" APART
RUTABAGAS	3" HIGH	4-6" APART
TURNIPS	2" HIGH	4-6" APART

## CARE THROUGH THE SUMMER

Keep weeds out of the rows. Weeds will crowd out the vegetables and rob them of food, light and water. Removing weeds during the first few weeks is very important since seedlings of most root crops are very small and grow slowly at first. Radishes and turnips germinate quickly.

Give plants a good soaking once a week when it doesn't rain. Water each row until the top few inches of soil are moist.



Mulch plants with straw, leaves, or other materials to keep weeds from growing and to hold moisture in the soil. Use 4 inches of mulch along each row.

Add a high nitrogen fertilizer such as ammonium nitrate or urea when the plants are well established. Use about  $\frac{1}{2}$  cup of fertilizer per 100 square feet and place it 4 inches from the row and carefully work it into the soil.

Make additional plantings of radishes about every 10 days if you want to harvest them over a long period of time. Radishes become hot, woody, or go to seed as they become old.



## KEEP THE INSECTS OUT

Root crops are not bothered by many insects, but there are a few that might give you some trouble.

Maggots and white grubs—live in the soil and eat the roots. Spray the furrow with diazinon at planting before covering the seed. Follow directions on the label.



Aphids—small gray-green insects that suck juices from under the leaves of turnips, beets and radishes. Spray with malathion or diazinon. Be sure to spray under the leaves. Follow directions on the label.



Flea beetles—small black insects that eat holes in the leaves. Spray leaves with diazinon or sevin. Follow directions on the label.

## HARVESTING YOUR VEGETABLES

Root crops are ready to harvest when the roots are large enough to use. Parsnips however, usually taste better after freezing weather.

VEGETABLE	BEST SIZE (diameter-inches)
Beets	1½ - 3
Carrots	1 - 1½
Rutabagas	3½ - 5
Turnips	1¼ - 2¼

## STORING ROOT CROPS

Roots can also be buried in moist sand or slightly moistened vermiculite to prevent drying out and shriveling.

Trash cans make good containers for storing roots either in the ground or above ground in a cool location. If buried in the ground, be sure to cover the top with straw, hay or other material to keep the roots from freezing.



The easiest way to store root crops, except radishes, is to leave them in the ground and mulch them heavily with straw or leaves. They then can be dug throughout winter and spring. This practice will, in fact, increase the sugar content of parsnips.

Roots other than radishes can also be stored in plastic bags or other containers for months. Store as close to 32°F as possible (without freezing) and in high relative humidity. Perforated plastic bags or garbage can liners are useful for keeping the humidity high.