

Growing Blueberries – Containers & Trench

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Blueberry Health Benefits

- Oxygen Radical Absorbance Capacity (ORAC) Unit per 100 g.
 - Prunes: 5,770
 - Raisins: 2,830
 - Blueberries: 2,400
 - Blackberries: 2,036
 - Strawberries: 1,560
 - Raspberries: 1,220(Ref. Clemson Extension)
- U.S. and Canada consume 76.82% of global blueberry exports
- Annual consumption in U.S. per capita 2.1 lbs (2014 USDA)

Soil pH – 4.5 to 5.5

- Acidic, moist, well drained, and high organic matter content (> 3%)

Iron chlorotic (yellowing) leaves in high soil pH (>7)

Growing Facts about Blueberries

- 800 to 1000 chilling hours
- Vegetative buds and flower buds
- Full sun (6-8 hrs), protection from winter winds
- Open flowers vulnerable to frost
- Blueberry sets it flower bud in 2nd, 3rd, and 4th year canes.
- Shallow rooted plants
- Cultivars differ in pollination requirement, best to plant two different cultivars
- Low bush, high bush and half-high bush blueberries




Photo Credit: Cornell University, Blueberry Planting Guide Publication



Blueberry Types

High bush

- Taller plants (up to 9’), vigorous in growth, self fruitful but less winter hardy
- Cultivars – bluecrop, patriot, Jersey

Half high

- Medium size plants (2- 5’), winter hardy, suitable for container plantings
- Second week in July to early August
- Cultivars – Northland, Northblue, polaris, Northsky, St. Cloud, Superior

Low bush

- Low growing (6 to 18”), spreading type, fruits are about pea size, winter hardy
- Cultivars – Top hat

Home Fruit Cultivars For Southern Wisconsin (A2582)


learningstore.extension.wisc.edu




If Your Soil pH is Between 5.5 to 7

- Prepare your soil at least a year before planting
- Good weed control is critical
- Mix peat 4-6 inches into the top soil.
- Incorporate elemental sulfur a year before planting:
 - For sandy loam soil, add 1-2 lbs of elemental sulfur per 50 cubic feet (10' x 10' x 6").
 - For loamy soil, use 3-6 lbs of elemental sulfur for 50 cubic feet.
- Aluminum sulfate not recommended, Iron sulfate too expensive and need large quantity (6-8 times the rate of elemental sulfur).

If your soil pH >7.0




Trench System



Container System





Container Planting

- Best time for planting – mid spring
- Container size 5 gallon to 55 gallon, sufficient drainage holes
- For patio settings, avoid black color container
- Best to bury containers in ground, place an inch of gravel underneath container



Soiless Media Recipe


- 1 part mini nugget pine bark
- 1 part peat
- 1 part perlite (optional)





- Don't disturb the root ball
- Don't bury the root ball deep in to the container
- Apply elemental Sulphur
- Water it immediately
- Apply 2 inches of mulch using pine bark or sawdust
- Frequent light watering
- Repot every 3-4 years

Container Trial Varieties



- Containers (5 -8 gallon size)
- Place two different varieties next to next for pollination
 - Patriot
 - Northland
 - Northblue
 - Northsky
 - Superior
 - Chippewa
 - Top Hat
 - Bluecrop

Fertilization

- Annual fertilization needed:
 - Elemental sulfur
 - Miracid
- Fertilizer timing:
 - Spring - 1 tbsp. of elemental sulfur for every 4" container
 - Miracid from mid/late spring to mid summer once in 2-3 weeks
 - Mix 1 tbsp. of Miracid for every gallon of water






Organic Fertilizer (Dr. Brian Smith, UW River Falls)


N Source	Analysis	Action rating	Comments
alfalfa meal	3-1-2	slow to med. (3 mos.)	good micro source
fish meal	10-4-0	slow (4-6 mos)	
fish emulsion/seaweed/kelp	varies	quick	use for foliar feeding, check analysis
blood meal	12-1.5-0.6	med-fast (6-8 weeks)	
cottonseed meal	6-2.5-1.7	slow to med (4-6 mos)	some sources are contaminated and not allowed for organic prod.
soybean meal	6.7-1.6-2.3	slow-med "	
well-composted manure/compost	varies dramatically	slow to med (usually)	check sources for compost; conduct analysis

Fencing






Container & Trench Demo Trial (2014)



- Trench
 - 6' x 4' x 12"
 - Plastic wood
 - Landscape fabric
 - Soiless media – pine chips, peat, perlite

Varieties in Trench



- Trench
 - Plant two different varieties
 - Staggered row, 2' feet apart
 - St. Cloud
 - Polaris
 - Bluecrop
 - Patriot
 - Chandler
 - Northblue


2016 Yield Data

Container Varieties	2016 Yield (ounces)
North Blue	28
Patriot (H)	23.7
Blue Crop (H)	45.9
Northland	24.2
North Sky	23.2
Superior	10.8
Top Hat	1.3
Chippewa	31.6

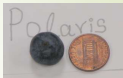
Trench varieties	2016 Yield (Ounces)
North Blue	30.4
Patriot (H)	67.4
Blue Crop (H)	54.8
St. Cloud	40.9
Polaris	22.6
Chandler	31.9

Good varieties based on our demo trial for both containers and Trench


- Bluecrop – high bush, vigorous in growth, medium size berries, good flavor, heavy yielder
- Northblue – large size berries, slight acidic taste, good flavor & aroma
- Polaris – Medium size berries, sweet and mild tart taste, good aroma
- Patriot – large berries, mild in sweet and little more tart taste, good aroma
- St. Cloud – Vigorous in growth, small to medium size berries, heavy yielder but mild in taste




Northblue



Polaris




Patriot



Overwintering

- Container planting – Patio or balcony
 - Move it to an unheated garage (late November)
 - Set it on a Styrofoam and mulch the sides of the container and on top of the soil surface
 - Check soil moisture once a month
- Container planting (if already buried in ground during growing season)
 - Late November, add extra pine chips 4" -6"
 - Wrap with Chicken wire and bird net on top
- Trench System
 - Use bird net or hardware cloth to protect from rodents and deer



What we learned?

- ❖ Able to maintain the soil acidity
- ❖ High bush type performs better in trench
- ❖ Root space restriction can impact the growth and yield
- ❖ Trench system comparatively yields better than container in some varieties, but its not as equivalent to field grown
- ❖ Fertilization and frequent light watering is critical

FAQ

- Can I add compost, fallen leaves from oaks?
- What to do with existing blueberry plants that are just planted in ground this spring?
- Is it essential to use a frame in the trench system?
- Can I grow them in raised beds?
- How to prune blueberry bush?

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