

# Way More Than You Ever Wanted To Know: An Updated List of Trees, Shrubs and Performance in Gravel Beds *November, 2018*



**By: Gary Johnson**  
*Urban Forestry Outreach  
Research and Extension Nursery*

Twelve years ago this past summer, we began conducting research on plant performances in gravel beds. Our earlier work included the feasibility of using gravel beds to temporarily hold trees that were in the way of construction projects (didn't work out so well) and correcting pot-bound root systems of containerized trees (resounding successes). Throughout it all, our main interest was how different species performed, in the gravel bed, after they were transplanted and when they should be established (three years after their rocky start).

Along the way, we learned a lot of other little things that it's not possible to run statistics on, but are nonetheless valuable nuggets of wisdom, to wit:

1. Don't let elms, coffeetrees or birches stay in gravel beds for more than 8-10 weeks. They root so aggressively that you'll break your back trying to harvest them from the beds.
2. Don't build below-ground gravel beds, especially in clay soils. If you, invest in a few sump pumps because you'll be needing to pump out water every time there's a good rainstorm.
3. Don't build above-ground beds with four sides that forces you to hand install all trees and shrubs and hand harvest them, unless you're installing only a few plants.
4. Three-sided gravel beds are the best. You can drive in with a front-end loader and drop buckets of gravel on the tree roots, and harvest them with the front end loader at the end of the season...no back-breaking work!
5. Avoid setting up gravel beds in full sun, windy locations...they take too much water.
6. If there are rabbits and squirrels around, don't use soaker hoses to irrigate the beds. Those little buggers like to chew holes in the hoses.
7. If you run out of planting time in the autumn, you can leave the trees and shrubs in the beds all winter and they survive quite nicely.
8. If you do leave the plants in the gravel beds all winter, you will need to either fence it or put trunk protectors on the trees. Tree trunks and shrub canes are mighty tasty winter treats for rabbits and voles.
9. Big oaks don't do very well in gravel beds. Smaller ones (5' tall or less) do pretty well.
10. Tree seeds can be germinated in gravel beds and with tap-rooted species like walnuts, they form highly-branched and fibrous root systems rather than sparse, single tap roots.

Attached to this newsletter is the spread sheet of all plants we have run through the gravel beds since 2006 (excluding the trees and shrubs from 2018). If you're a plant geek and you want to try a gravel bed out, you don't need anything fancy. An old wading pool works for smaller

plants. For more information on gravel beds, even though it desperately needs updating, check out our 2013 primer by following this link and then click on All You Need To Know About Community Gravel Beds: <https://trees.umn.edu/products>.



Stocking a gravel bed the smart way.



Typical root system going into a gravel bed in April.



Typical root system after 12 weeks in gravel.