



WALNUT NOTES

Direct Seeding

Should a grower plant black walnut seeds...or black walnut seedlings? There's no one right answer, but planting seeds offers several advantages over planting seedlings:

1. Seedlings from seeds develop normal taproots.
2. Seeds are easier to store and carry to the planting site.
3. Seeds can be planted in the fall or in the spring after stratification.
4. Seeds of selected, high-quality trees can be planted instead of run-of-the-mill seedlings.

However, direct seeding has some drawbacks:

1. Because of unpredictable germination, several seeds must be sown in each seed spot.
2. Seeds must be protected from squirrels and other predators.

If you've decided to direct seed your plantation, here are some guidelines to follow.

Prepare the Site

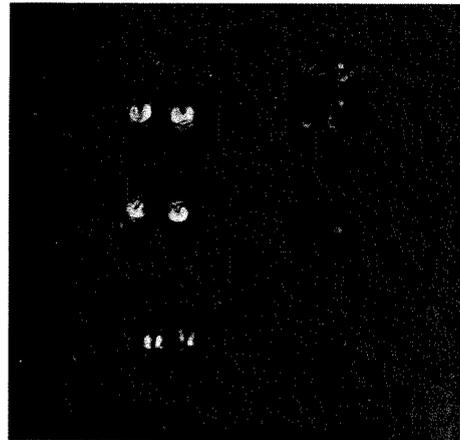
Before sowing seeds, prepare the planting site to kill competing vegetation (see Note 2.02: Site Preparation). This can be done by cultivation (plowing, disking, or rototilling) or by treatment with a combination of preemergent and postemergent herbicides. Recommended techniques include:

1. Plow and disk the entire planting site if soil erosion will not occur.
2. Spray 4-foot-wide strips, and plant the nuts down the middle of each strip at the desired spacing, or
3. Spray a series of 4-foot-diameter circles at the desired spacing, and plant seeds in the middle of each circle. A properly squared spacing will allow for plantation maintenance by machine in both directions.

Choose Good Seed

Test the viability of freshly husked seeds by placing them in a container of water. Empty seeds will float; filled seeds will sink (see Note 1.02: Seed Handling). Crack open a small sample of nuts (10 to 20) to determine the percentage of sound seed in your seedlot. Viable nuts have white, sound-looking meat; non-viable seeds have beige, shriveled kernels that are watery or give off a foul, rancid odor (fig. 1). The percentage of viable seeds in your sample will determine how many seeds to plant per spot. Use of the following table as a guide will result in only 5- to 20-percent blank spots.

Figure 1.-Viable nuts have white, sound-looking meat.



Sound seed (Percent)	Seeds per spot (Number)
80-100	2
60-80	3
40-60	4
Less than 40	5 or more

Plant the Seeds

Seeds may be planted early in the fall so that the necessary chilling occurs naturally, or they can be planted in the spring if they are fully stratified (see Note 1.02: Seed Handling). Improper stratification or dry soil may delay germination until the second year. Fully stratified seeds can be taken out of cold storage about 1 week before planting to accelerate germination. Make sure they do not dry out. Handle seeds carefully to protect the emerging radicles.

Plant each seed about 2 to 3 inches deep with the nut laying on its side. If more than one seed is planted per seed spot, place them at least 8 inches apart to make it easier to remove excess seedlings at a later date. If you plan to strip spray with herbicides in the future, plant nuts within a seed spot in a single file parallel to the rows. If you plan to spot spray, use a triangular pattern for three seeds or a square pattern for four seeds within each seed spot. Using clustered patterns helps to keep rows straight, minimize size of herbicide circles, and minimize amount of materials needed if you erect mechanical barriers to predation.

Protect seeds from squirrels and other predators by using mechanical barriers or chemical repellents. The cheapest and most effective repellent is a generous portion of *fresh* cow manure over each seed spot (see Note 5.06: Preventing Animal Damage).

Tend the Seedlings

After the first or second growing season, pick out the best seedling in each seed spot and remove the rest. Thrust a sharp spade diagonally under the unwanted seedling, cut off the shoot about 1 inch below the root collar, and pull up the shoot. (You may want to dig up extras and transplant them to empty seed spots.) Use postemergent herbicides on unwanted seedlings with caution because spray may drift onto the desired seedling or be carried through the root system to that seedling. When using a postemergent herbicide like Roundup[®], apply it when the top growth has slowed and soil moisture is adequate for continued root growth.

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'Mention of trade names does not constitute endorsement by the USDA Forest Service.