

# How to Grow Linden Trees from Seed:

Linden trees, sometimes called basswood or lime tree, are an excellent choice for urban areas. Linden trees grow 65 to 130 feet tall. The Linden is recommended as an ornamental tree that produces fragrant and nectar-producing flowers. Linden trees are very important for beekeepers because the flowers produce a very pale but richly flavored honey.

## **1<sup>st</sup> Step: You received your Linden tree seeds in the mail, now what?**

### **Options:**

- You can plant the seeds outdoors in the fall and let them naturally stratify during the winter and they will germinate in the spring.
- If the seeds require cold and or warm stratification period – you can stratify the seeds inside in your fridge during the winter months and then plant the seeds outdoors in the spring (after the last frost).
- You can stratify the seeds indoors in your fridge and then germinate the seeds indoors during the winter, growing the seeds into tree seedlings and then transplanting the seedlings outdoors in the spring.
- If the seeds don't require a stratification period, you can store the seeds in plastic bags in your fridge and plant the seeds outdoors in the fall or spring. Generally, spring is the best time to plant tree seeds outdoors because they have the spring, summer and fall to mature enough to survive the winter weather conditions.

### **Soil Types:**

Linden trees prefer moist, well-drained soils in full sun to partial shade. Tolerant of alkaline soils.

### **Watering:**

Maintain a regular watering schedule for the first 2 years. Water the seedling twice a week – this will encourage the roots to establish themselves well. A young Linden tree requires about an inch of water every week. You don't need to water if rainfall is present.

### **Fertilizer:**

Fertilizer isn't required for trees in the first 2 years. It is best to use organic manure instead. Once the roots and seedling is established you can give it a slow-acting granular fertilizer once a year. Fertilize in the fall to help the tree brace for the harsh winter conditions.

### **Pruning:**

Linden trees don't require pruning in its younger stages. Mature Linden trees will benefit from a yearly trim. The best time to prune is in the winter. Removed broken and diseased branches.

### **Linden Tree Seed Stratification Requirements for Germination**

- **American Linden or American Basswood (*Tilia Americana*):** 90 days cold moist stratification. Zones: 3 to 8
- **Littleleaf Linden (*Tilia cordata*):** 90 days cold moist stratification. Zones: 3 to 7
- **Silver Linden (*Tilia tomentosa*):** 90 days cold moist stratification. Zones: 4 to 7

### **What is stratification?**

Seed stratification is a time for moist seeds to sit preparing to germinate. Most tree seeds need to be cold stratified indoors in your fridge. By placing your tree seeds in a container mixed with moist peat moss and organic seed starting mix, you are mimicking the natural winter conditions the seed goes through naturally to germinate in the spring. Tree seeds are smart in that they will not germinate if the weather conditions are low and the ground is cold or frozen. Tree seeds will only germinate when the weather conditions and temperatures are in their favor for survival.

### **How to stratify tree seeds:**

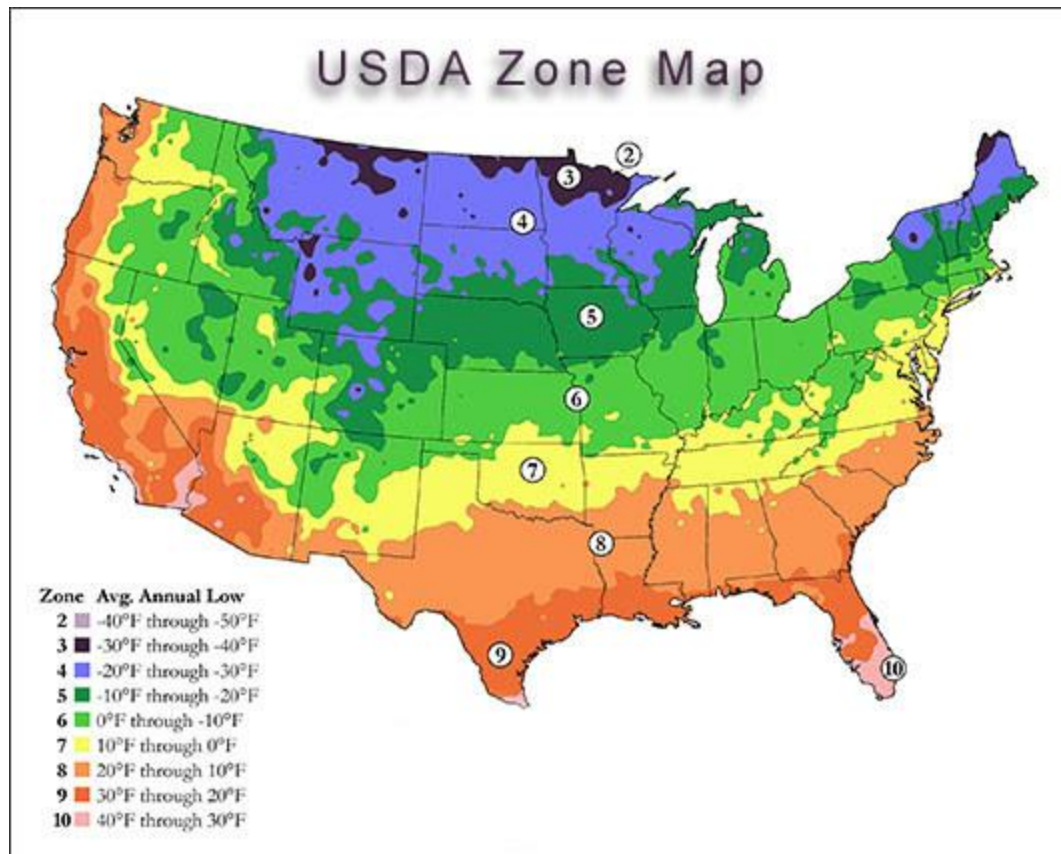
Many tree seeds require a cold stratification period in order to germinate while some require a warm stratification prior to the cold stratification. Cold stratification is at the temperatures of 34-41 degrees F (Fridge temps). Warm stratification is at the temperatures of 68-86 degrees F.

When a seed requires both a warm and cold stratification, the warm stratification is done first, followed by the cold stratification. A warm stratification is done to soften the seed coat or allow the seed embryo to mature.

- Seed should be stored cold prior to planting or stratifying. Allow the seed to warm to room temperature, and then soak the seed in warm water for 24 hours (for most species). Drain and place seed in a plastic bag with 3-4 times the volume of

seed with moistened milled sphagnum moss, moistened vermiculite, organic seed starting mixture or other suitable moisture medium.

- Add water to the bag to moisten the seed stratification mixture. After the moisture medium has soaked up the water, hold the bag upside down and squeeze like a sponge to remove any excess water. Vermiculite soaks up water fast while peat moss may take 8-10 hours before it has fully hydrated. The moisture medium should always be a sterilized material so you do not introduce any mold or fungi into the treatment.
- Shake up (seed/moisture medium mix) and place the bag in the refrigerator at 34-41 degrees F. We usually put the bag of seeds to be stratified in the vegetable keeper or crisper of our fridge. Remember, the seed does not know where it is, only the temperature. Do not put the seed in a freezer or in a place where the seed will be frozen all winter. In nature, snow and leaves on the forest floor forms an insulation blanket that keeps the seed at a temperature just around freezing on most days.
- Check every 2 weeks to look for molding or drying out. If the seed molds, just remove the seed and throw it away. Make sure the stratification mixture medium is moist and not dried out. If the mix starts to dry, add enough water to moisten, squeeze out any unused moisture and re-seal the bag.
- After the required time period (or after 20% germination is noticed), remove the seed and plant indoors, in a greenhouse or outside in the spring (after the last frost in your area).



#### How to start tree seeds indoors:

1. Stratify the tree seeds in the fall or winter. Fill a plastic sandwich bag with a handful of damp peat moss or vermiculite and place the seeds in the bag. Store the seeds in a refrigerator at 33-41 degrees F for recommended stratification time.
2. Fill a seed tray with 3-4 inch layer of rich, but well-draining seed starting mixture. You can also use a mixture of equal parts peat moss, organic compost, vermiculite and coarse sand.
3. Plant the tree seeds a quarter-inch to 1-inch deep in the seed starting mixture, spaced about 1 or 2 inches apart. Plant the stratified seeds indoors in late winter or early spring.
4. Water the seed starting mix to keep the seeds evenly moistened, but allow the water to drain thoroughly. Let the seed starting mix dry out completely between watering's.
5. Set the seed tray in partial sunlight (about 50%) when the seeds begin to germinate. Keep the seed tray at room temperature while germinating and sprouting the maple tree seeds.
6. Transplant the strongest tree seedlings outdoors or into individual planter pots after they've developed their second set of leaves, or "true leaves."