

Starting Vegetables from Seed

Soil

When starting seeds indoors, a soilless, pre-mixed growing medium is perhaps the most convenient to use. Soilless mixes are generally made up of peat, perlite (improves drainage) and vermiculite (aids in water retention) along with some nutrients. These mixes are for the most part free from disease, insects and weed seeds.

Sowing

Follow the instructions on the back of the package. Some large seeds, such as watermelon or squash seeds can be seeded directly into the pot where they will grow until transplanting outdoors. For small seeds like carrots, it is best to simply scatter the seed thinly over the surface of the soil and then cover with an appropriate amount of soil. After germination the tiny seedlings can be separated and transplanted into larger containers. Most plants can be grown in fiber packs with 4-8 seedlings per pack, depending on the plant. Some vegetables, such as lettuce and those in the cabbage family can be sown and grown directly in 1 inch cells with one plant per cell. Growing in cell packs helps to eliminate root disturbance at the time of transplanting.

Soil temperature refers to the ideal temperature of the soil required to initiate germination. Most seeds germinate at a soil temperature of 18-22°C. Keeping the temperature within this range can be hard, especially for seeds which take more than a week to germinate. Regular air temperature is generally warmer than the soil temperature, and is not sufficient enough to warm the soil. For best results, try using a propagation mat, heating cable or a hotbed. A really warm room, like a furnace room may be suitable, depending on the seed.

Cold-Moist Stratification (Pre-Chill) Some seeds germinate best after a period of cold and wet that stimulates the winter season. This is called cold-moist stratification. The easiest way to stratify seeds is to sow them into their pots, water them lightly, cover the pots with plastic, and place them in the fridge for the recommended amount of time. You can also place seeds in a ziplock bag and put it in the fridge. After the recommended amount of time, remove the seeds from the fridge and pot them up. You can also add peat moss in with the seeds that will provide them with just the right amount of moisture. After stratification, place the seed pots with the required temperatures and lighting.

Soil moisture is equally as important as the temperature. The seed needs water to help soften the seed coat and stimulate the root development. Once the root has penetrated into the soil, the young seedling emerges from the soil towards the light. If the soil is allowed to dry during this process, the germination will be delayed or, in most cases, ended. To keep the soil moist, mix the growing medium with water, enough so that if a handful is squeezed, a small dribble of water will run out. After mixing, sow your seeds accordingly and then cover the containers with clear plastic, this can be anything from freezer bags, plastic wrap, or the clear domes which come with some of the large holding trays. Using the plastic covering will help to keep the moisture and humidity in the soil. If you find the soil drying out due to the constant heat, use a water bottle which will provide a fine mist or watering can with a gentle nozzle, so as to not disturb or bury the seed deeper. After germination, be sure to remove the plastic and place plants under grow lights in a bright, south facing window.

After Germination

Lighting is critical when starting plants indoors. Without sufficient light, your plants will become tall and leggy, which in turn will make them prone to bending and breaking. When growing plants indoors, make sure you have at least a bright south facing window along with an adjustable fluorescent light suspended from the ceiling, or use a table top or shelf style of lighting stand to hang over the seedlings. Young seedlings will require 16 hours of light and the plants must be 3-4" from the lights at all times for proper growth.

Feeding plants, whether they are in the garden or growing as transplants indoors, is important. You will need to start fertilizing young seedlings with a mild or small dose of a balanced fertilizer. Some fertilizers include fish emulsion, compost tea and blended fertilizers such as 20-20-20 or 15-30-15. Which ever fertilizer you use, be sure to dilute to half the strength for the first few feedings and then gradually work up to full strength. Feed plants weekly.

Watering: When watering new seedlings it is very important to follow some simple guidelines to avoid the spread of diseases that can attack and destroy newly emerging plants. The most common disease is known as "damping off" which can attack a seed before it germinates but is best recognized as rot at the base of the plant causing irreparable wilt. The following instructions will help you maintain a healthy crop by providing a disease resistant growing environment.

Do: Use sterile, well-draining soil and containers. Sterilize old containers in a very mild bleach solution. Use fresh, pH neutral soil. Use containers with proper drainage holes and water plants from the bottom. Provide good air circulation at all times. Sprinkle a thin layer of sand or perlite on surface to keep stems dry at the base by absorbing excess moisture.

Avoid: Acidic soil. Watering from the top Transplanting or taking cuttings when soil is wet. Excess watering, letting the soil dry out completely. High humidity. Over crowding of seedlings. Crowns that are below soil level.