Reading and Understanding a Seed Packet

Information that can be found on a Seed Packet:

- Common Name of Plant
- Scientific Name of Plant
- Type of Plant - Annual; Perennial; Biennial; Vine
- Description - Plant Characteristics & Habit; Benefits; Organic or Non-GMO verified; Disease Resistance; etc.
- Size of Plant at Maturity
- Quantity of Seeds - Specific number or by weight
- Days to Germination; Maturity; Flowering
- Time to Plant - Outdoors or Start Indoors; Soil Temperature
- Planting Directions - Depth to plant; Spacing; Thinning; Good for Container; etc.
- Cultural Requirements - Amount of Light (Sun/Shade); Soil Preference; Water; Care & Maintenance; etc.
- Pack for & Sell by Date sometimes includes Lot# 
- Name of Seed Company

Reading an Seed Packet

[Image of a seed packet with labels pointing to different sections: Common Name, Scientific Name, Quantity of Seeds, Sowing, Light Requirements, Spacing, Cultural Requirements, Lot #, Packed for Date, Sell By Date, Days to Maturity, Determinate, Germination, Hardening Off, Seed Company.


[TOTALLY TOMATOES, 334 West Stroud St. Randolph, WI 53956]
Reading an Annual or Perennial Flower Seed Packet

- **Lot #, Packed for Date**
- **Sell By Date**
- **Plant Name**
- **Type of Plant**
- **Plant Description**
- **Seed Company**
- **Pollination & Seed Treatment**
- **Germination**
- **Verification**
- **Seed Company**
- **Lot #, Packed for Date**
- **Sell By Date**
- **How to Sow**
- **Spacing & Thinning**
- **Requirements**
- **How to Sow**
- **Planting Time**
- **Frost Date**
- **Requires Scarification**
- **Type of Plant**
- **Plant Name & Variety**
- **Plant Description**
- **Light Requirements**
- **Days to Bloom**
- **Spacing**
- **Container Friendly**

**Lot #, Packed for Date**

**Sell By Date**

**Plant Name**

**Type of Plant**

**Plant Description**

**Seed Company**

**Pollination & Seed Treatment**

**Germination**

**Verification**

**Seed Company**

**Lot #, Packed for Date**

**Sell By Date**

**How to Sow**

**Spacing & Thinning**

**Requirements**

**How to Sow**

**Planting Time**

**Frost Date**

**Requires Scarification**

**Type of Plant**

**Plant Name & Variety**

**Plant Description**

**Light Requirements**

**Days to Bloom**

**Spacing**

**Container Friendly**
Terminology Defined:

**Annual**- Plant that completes its life cycle from seed to maturity to dying in one year or less.

**Biennial**- Plant that requires 2 years, or 2 growing seasons with a dormant period in between, to complete its life cycle.

**Bolting**- Plant produces a flower stalk and goes to seed then dies before the end of the season. For instance, lettuce will bolt when temperatures are hot. You will want to delay bolting unless you are growing to harvest seed.

**Bush vs Pole**- Typically applies to legumes such as beans and peas.
- **Bush** legumes grow only several feet tall then set pods and do not require trellising support. They tend to have a brief but bountiful harvest window.
- **Pole** legumes can grow quite tall, up to 8-10’ depending on cultivar and require trellising and typically have a longer harvesting window.

**Bush vs Vining**- Typically this applies to members of the cucurbit family (cucumbers, squash, pumpkin, melons).
- **Bush** type squash have shorter vines and leaf stems and stay in contained area.
- **Vining or runner** type cucurbits fruit along the vines which continue to grow and branch and will require a larger area to spread and grow.

**Day to Maturity**- Theoretical time it takes the plant to grow from a seed to harvest. Typically based on direct sowing of seed.

**Determinate vs Indeterminate**- This terminology typically applies to tomatoes.
- **Determinate** tomatoes grow, fruit, and flower to a genetically determined size. They are compact and considered bush varieties which can typically grow without support or pruning. Fruit sets and ripens in a fairly narrow window.
- **Indeterminate** tomatoes continue to grow as long as weather conditions allow and are considered vining varieties. They generally need staking or support and some pruning to reduce suckers. Fruit ripens progressively over a longer period of time.

**Frost Date**
- **First Frost Date**- The day of the year when the air temperature first falls below the freezing point of water. For fall garden seed starting calculate date of sowing based on the number of weeks before first frost date.
- **Last Frost Date**- The day of the year when it can reasonably be expected that the air temperature will no longer drop below the freezing point.

**Germination**- The first growth initiated by the seed (embryo) resulting from the seed absorbing moisture then undergoing enzymatic changes, first producing a tiny root down into the soil followed by a shoot which unfurls toward the light.
- **Minimum Germination Standard**- The legal rate of germination expressed as a percentage of seeds that should germinate during the sold by date period stamped on packet.

**Hardening**- The result of many changes that occur in a plant as it develops resistance to adverse conditions, especially cold.
- “**Hardening Off**”- Gradually acclimating a seedling or tender plant grown indoors in a protected warm environment to ambient outside conditions before transplanting enabling them to survive cooler temperatures, wind, and changing growing conditions.

**Heirloom**- A recognized open-pollinated cultivar with a long heritage. Many heirloom plants have been passed down for generations.

**Hybrid**- A first-generation cross between two genetically diverse parent plants with different desirable characteristics to produce plants having improved growth, disease resistance, flavor, and reliability. Not good for seed saving.
Perennial- Plant which lives for multiple years.

pH- A measure of acidity or alkalinity; pH of 7 is neutral; less than 7 is acidic more than 7 is basic. Most vegetables prefer a pH of 6.0-7.0.

Pinching- Breaking off the uppermost growing point, thus allowing the side buds to start to grow. This promotes outward growth rather than upward growth.

Pollination- Transfer of pollen from the male reproductive organ (anther) of the flower to a female reproductive organ (stigma) of the flower resulting in fertilization and seed production.
- Cross-pollination- Process when pollen is transferred from a flower of one plant to the flower of another variety (cultivar) of plant by wind, bees, or purposely by humans experimenting to form a new variety. The two plants’ genetic material may combine to create seed that has characteristics of both parent plants.
- Self-pollination- Process by which pollen is transferred to another flower on the same plant or to another flower of the same cultivar.

Requires Scarification- Seeds which have a very hard seed coat may require controlled damage to the outer surface before germination will occur. This typically involves scratching or sanding of the seed coat or treating the seed with a solution. In the natural environment where these plants grow, this occurs when passed through the digestive system of an animal.

Requires Stratification- Seeds must endure a process to re-create conditions the seed would have undergone naturally before germination will occur. Typically this means simulating winter dormancy by exposing seeds to cold moist conditions for a period of time.

Seed- Plant embryo with associated stored food encased in a protective seed coat.
- Certified Organic- Seeds are grown according to USDA specific standards that prohibit the use of synthetic fertilizers, pesticides, sewage waste, or genetic modification and ecological farm management practices.
- Non-GMO Verified- The seed company product is certified by a third-party organization, Non-GMO Project, to be free from ingredients, products, or components that are genetically modified.
- Pelleted- Seeds which are coated with clay to make them easier to handle and plant such as carrot seed. Pelleted seeds typically have a shorter shelf life and should be planted the same year as purchased.
- Treated- Seed may have been coated with a fungicide or undergone a hot water process to protect seed from soil pathogens during germination.
- Untreated- Seed has not undergone any process or coating.
- Usual Seed Life- The length of time measured in years that a seed will remain viable if stored properly. For instance, Brassica family (Cabbage, Broccoli, etc.) and Tomato seeds often are viable for 4-5 years unlike onion or parsnips which lose their viability quickly and need to be planted the year they are purchased. Seed storage plays a huge roll in seed viability. Seeds should be stored in a cool, dry location. Warm, humid conditions can shorten the seed’s life.

Seedling- A new plant that has its first true leaves. A newly-germinated seed will have embryonic leaves (Cotyledons) when the seed breaks the soil surface which differ from the later “True Leaves” of the plant.

Sow- To plant seeds.
- Direct Sowing- Planting seed directly into the soil where they will grow. Recommended for plants grown for their roots such as carrots and beets as well as plants which are hard to transplant such as squash and cucumbers.

Slow-release fertilizer- Fertilizer particles are encapsulated or coated with a material that slowly allows the release of the fertilizer over time.

Spacing- How far apart the plants/seedlings should be planted to allow for proper growth and air circulation to reduce disease.
**Thinning**- To pull or remove some seedlings that are close together to allow other seedlings to develop without crowding. Most vegetables will not grow properly to maturity without sufficient room. Some vegetables such as beets, carrots, onions can be harvested in a range of sizes, so they can be planted closer together then thinned allowing others to grow on.

**Transplanting**- To move a plant from one growing location to another, such as removing a seedling from a pot and planting it directly into the garden.

"**Wet feet**"- A condition where plants are exposed to excess soil moisture caused by over-watering, flooding, or sitting in water.

---

**References:**

New York State Horticultural Study Guide for Youth, Glossary of Horticultural Terms
http://www.hort.cornell.edu/4hplants/glossary.html

Northwest Edible Life, All the Seed Terminology You Need To Know
http://nwedible.com/seed-terminology-need-know/#planting_terms