University of Idaho Extension

IDAHO master GARDENER
A UNIVERSITY OF IDAHO EXTENSION PROGRAM

Growing in Northern Idaho

SEED STARTING ESSENTIALS FOR THE HOME GARDENER

Presented by:
Candace Godwin
Certified Idaho Master Gardener
Owner, The Coeur d'Alene Coop

The Coeur d'Alene Coop

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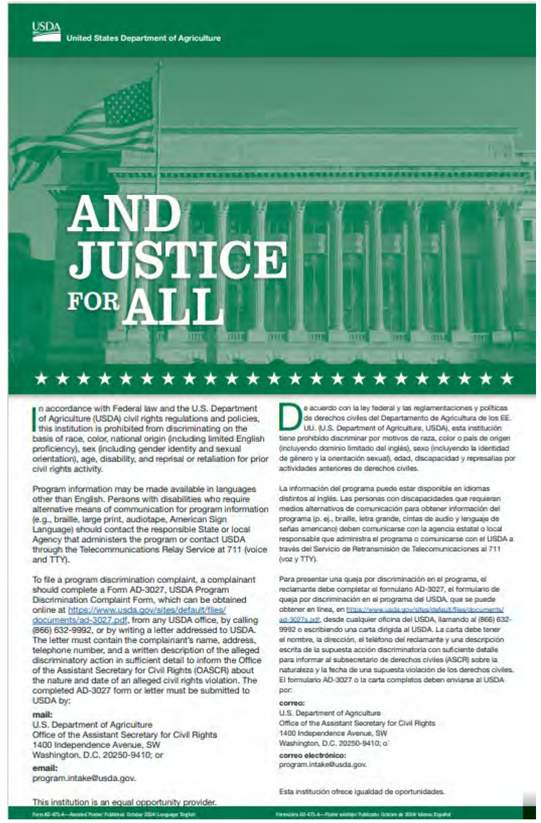

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University of Idaho Extension

HUMBLE BEGINNINGS…

A packet of tomato seeds and a sunny, south-facing window…

TODAY…

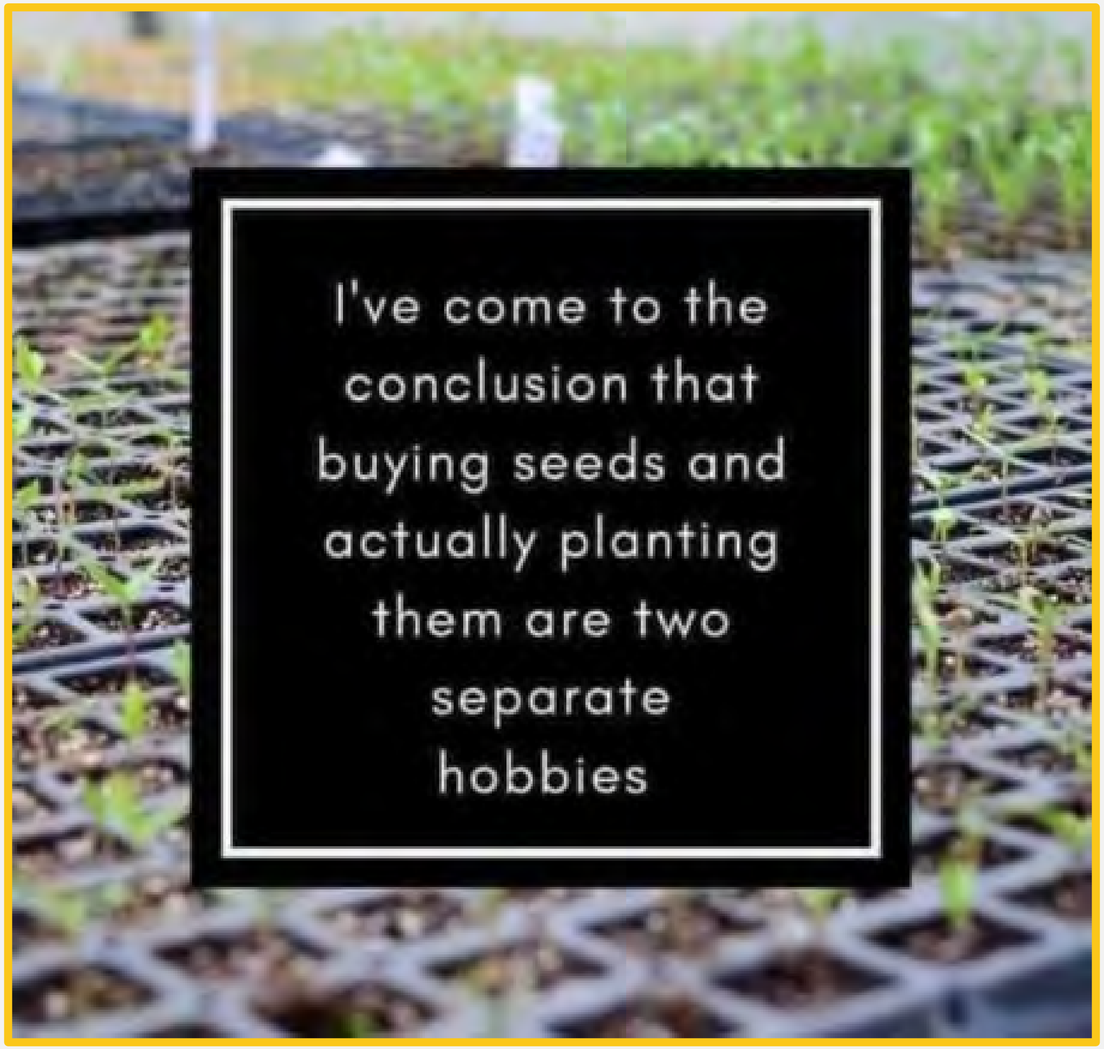
Fourteen years later, a dedicated growing garage and a greenhouse.

WORDS TO GARDEN BY…

“There are no gardening mistakes, only experiments!”

— Janet K. Phillips

IS THIS YOU?? LOL!!



WHAT WE'LL COVER TODAY

- Why grow from seed?
- Exploring the seed packet
- Seed biology
- Germination requirements & how seeds germinate
- Why seeds fail
- Seed timing
- Supplies & equipment
- Potting up and hardening off

WHY GROW FROM SEED?

My Top Reasons

1) **More Choices** for what to grow.

2) **More Control** over how your plants are grown.

3) **Money Saver!**

4) **Low Risk** to experiment.

SEEDY TERMINOLOGY

- Open Pollinated
- Heirloom
- Hybrid
- GMO
- Organic

GMO PURPLE TOMATO!!

- First GMO seed made available to the public.
- Genetically modified with snapdragon DNA for purple color.
- High in anthocyanins.
- Attempt to make the public comfortable with GMOs.

SOME RESTRICTIONS APPLY...

ORGANIC SEED: DOES IT MATTER?

If you are Certified Organic by the USDA, you must use organic seed.

Here's what organic offers…

- Seed with little or no chemical influence
- Seed that is not weakened by constant chemical support
- Seed that is naturally more resilient to pests and diseases

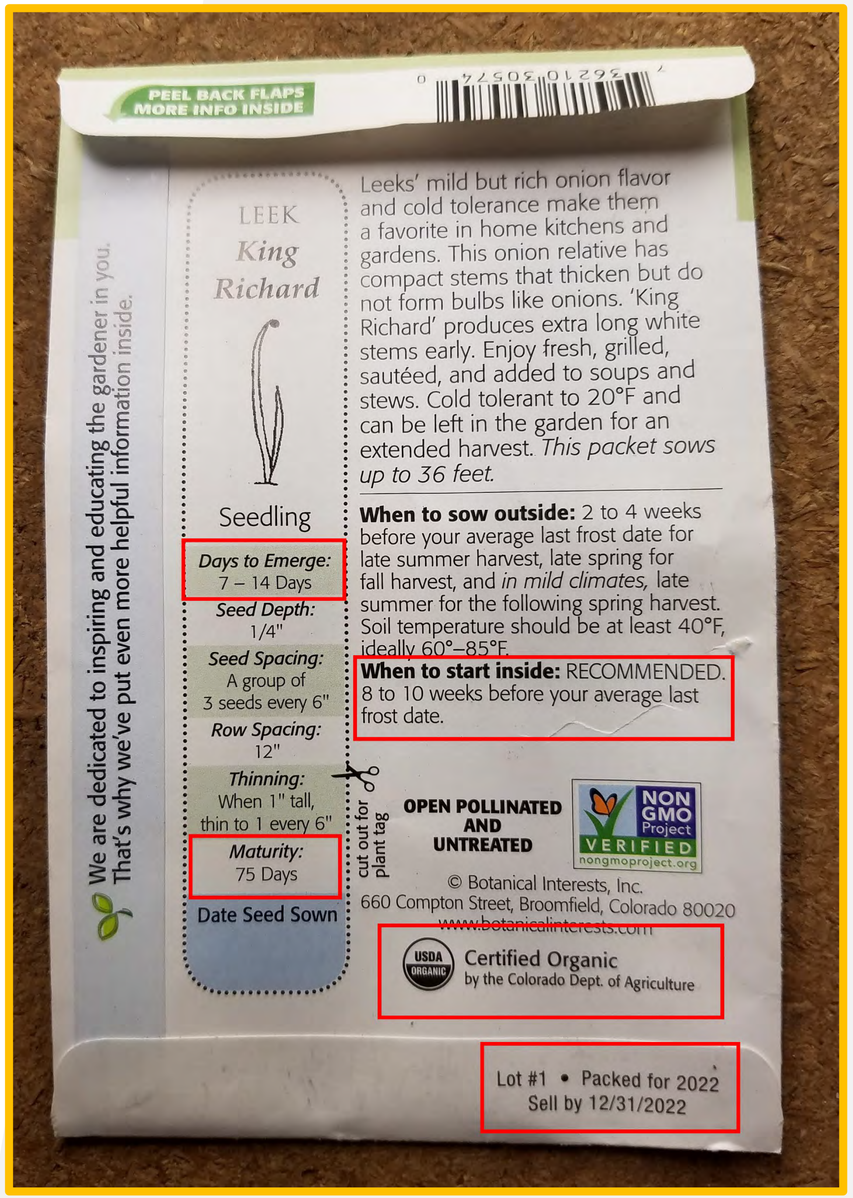
YOUR BEST FRIEND: THE SEED PACKET

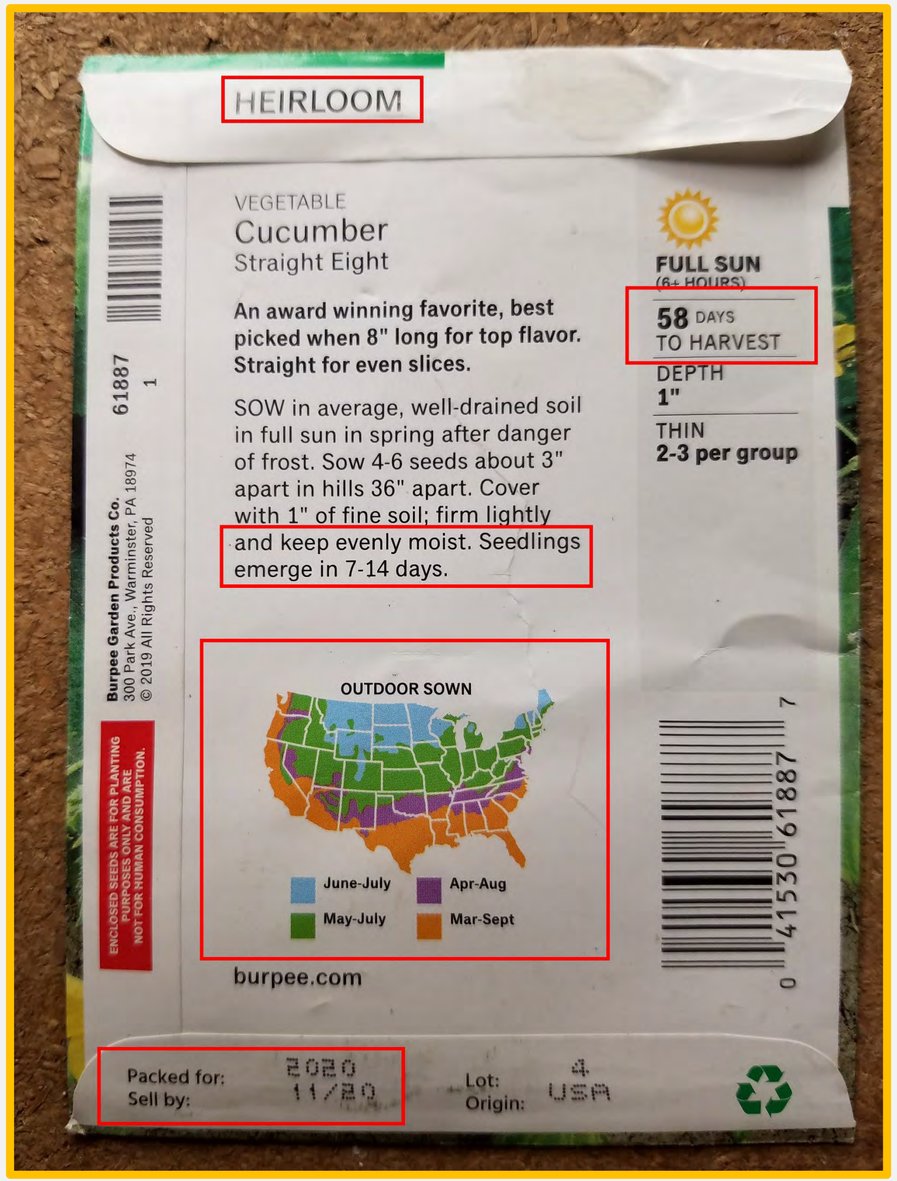
Loaded with important information:

- Plant Name – Common and Botanical
- Variety and Cultivar
- Organic or Conventional
- Open Pollinated, Heirloom, or Hybrid
- Sowing Instructions
- Days to Germination and Maturity
- Freshness Date

YOUR BEST FRIEND: THE SEED PACKET

YOUR BEST FRIEND: THE SEED PACKET





YOUR BEST FRIEND: THE SEED PACKET

PEEL BACK FLAPS
MORE INFO INSIDE

362105022

We are dedicated to inspiring and educating the gardener in you.
That's why we've put even more helpful information inside.

FENNEL
Finocchio

Seedling

Days to Emerge:
7 – 14 Days

Seed Depth:
1/4"

Seed Spacing:
A group of
3 seeds every 10"

Row Spacing:
10"

Thinning:
When 1" tall,
thin to 1 every 10"

Date Seed Sown

If you have never tasted fennel, you are missing a treat. Also called Florence fennel, it can be eaten raw, used to flavor soups and pasta, deep-fried, or sautéed and added to gravy served over steaks! The feathery leaves are attractive in the garden and are a fresh garnish to fish, chicken, tomatoes, and sauces. Seed can also be harvested as a spice. *This packet sows up to 33 feet.*

When to sow outside: *For "bulb":* Midsummer for fall harvest is optimal; ideal soil temperature is 60°–75°F. *In cool summer areas (under 75°F):* 1 to 2 weeks after your average last frost date. *Mild Climates:* Sow in fall for cool season harvest. *For foliage only:* Every 3 weeks after your average last frost date until midsummer.

When to start inside: 4 to 6 weeks before your average last frost date (recommended for spring "bulb" production). Use biodegradable pots for transplant.

Special germination instructions: Darkness aids germination; sow at recommended depth.

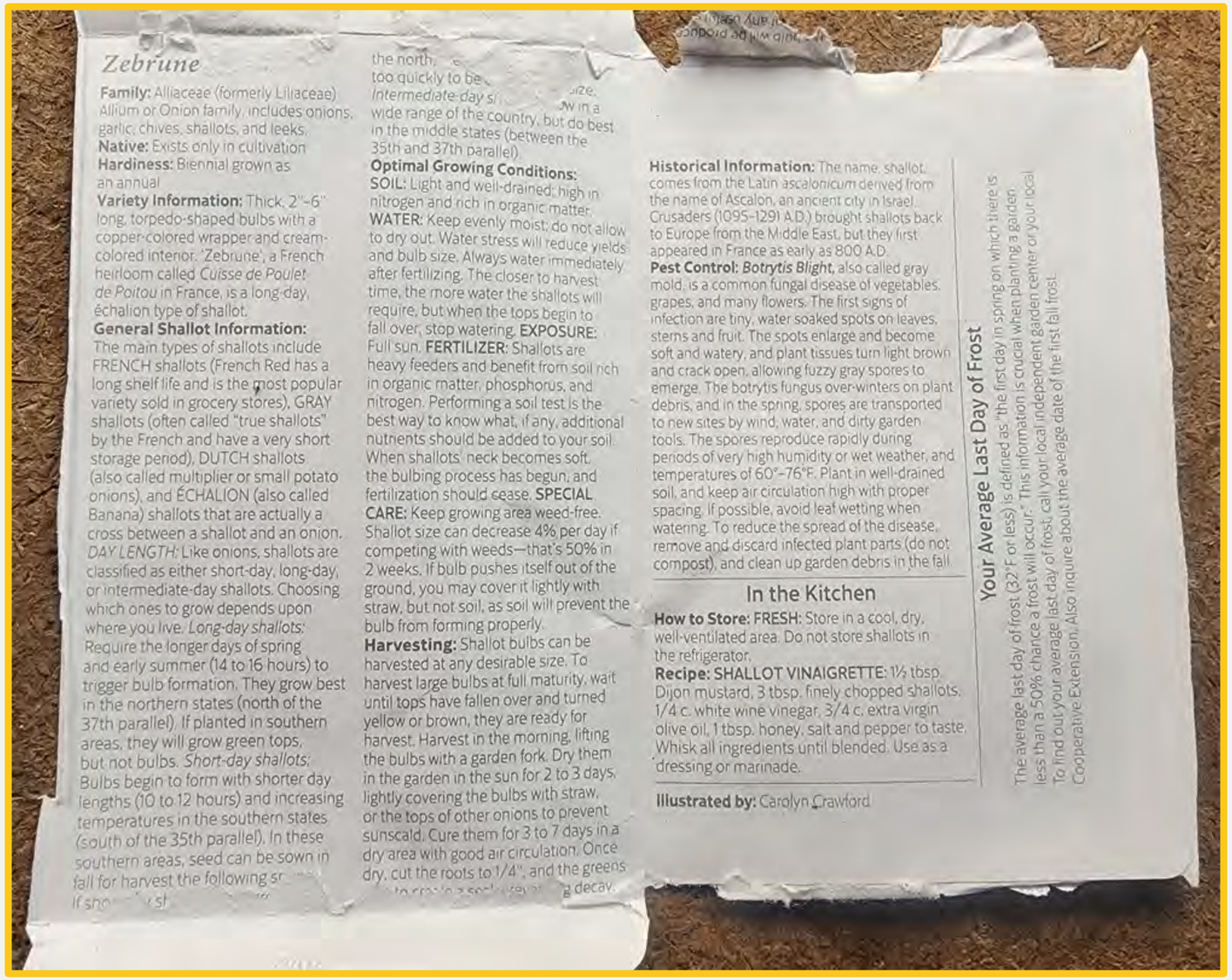
cut out for plant tag

OPEN POLLINATED AND UNTREATED

NON GMO Project VERIFIED nongmoproject.org

660 Compton Street, Broomfield, Colorado 80020
www.botanicalinterests.com

Lot# 34311 Packed for 2022
Sell by 12/31/2022



Zebrune

Family: Alliaceae (formerly Liliaceae) Allium or Onion family, includes onions, garlic, chives, shallots, and leeks.
Native: Exists only in cultivation
Hardiness: Biennial grown as an annual
Variety Information: Thick, 2"–6" long, torpedo-shaped bulbs with a copper-colored wrapper and cream-colored interior. 'Zebrune', a French heirloom called *Cuisse de Poulet de Poitou* in France, is a long-day, échalion type of shallot.
General Shallot Information: The main types of shallots include FRENCH shallots (French Red has a long shelf life and is the most popular variety sold in grocery stores), GRAY shallots (often called "true shallots" by the French and have a very short storage period), DUTCH shallots (also called multiplier or small potato onions), and ÉCHALION (also called Banana) shallots that are actually a cross between a shallot and an onion. *DAY LENGTH:* Like onions, shallots are classified as either short-day, long-day, or intermediate-day shallots. Choosing which ones to grow depends upon where you live. *Long-day shallots:* Require the longer days of spring and early summer (14 to 16 hours) to trigger bulb formation. They grow best in the northern states (north of the 37th parallel). If planted in southern areas, they will grow green tops, but not bulbs. *Short-day shallots:* Bulbs begin to form with shorter day lengths (10 to 12 hours) and increasing temperatures in the southern states (south of the 35th parallel). In these southern areas, seed can be sown in fall for harvest the following sp

the north, too quickly to be *Intermediate-day s* ize. w in a wide range of the country, but do best in the middle states (between the 35th and 37th parallel).
Optimal Growing Conditions:
SOIL: Light and well-drained; high in nitrogen and rich in organic matter.
WATER: Keep evenly moist; do not allow to dry out. Water stress will reduce yields and bulb size. Always water immediately after fertilizing. The closer to harvest time, the more water the shallots will require, but when the tops begin to fall over, stop watering. **EXPOSURE:** Full sun. **FERTILIZER:** Shallots are heavy feeders and benefit from soil rich in organic matter, phosphorus, and nitrogen. Performing a soil test is the best way to know what, if any, additional nutrients should be added to your soil. When shallots' neck becomes soft, the bulbing process has begun, and fertilization should cease. **SPECIAL CARE:** Keep growing area weed-free. Shallot size can decrease 4% per day if competing with weeds—that's 50% in 2 weeks. If bulb pushes itself out of the ground, you may cover it lightly with straw, but not soil, as soil will prevent the bulb from forming properly.
Harvesting: Shallot bulbs can be harvested at any desirable size. To harvest large bulbs at full maturity, wait until tops have fallen over and turned yellow or brown, they are ready for harvest. Harvest in the morning, lifting the bulbs with a garden fork. Dry them in the garden in the sun for 2 to 3 days, lightly covering the bulbs with straw, or the tops of other onions to prevent sunscald. Cure them for 3 to 7 days in a dry area with good air circulation. Once dry, cut the roots to 1/4", and the greens g decay.

Historical Information: The name, shallot, comes from the Latin *ascalonicum* derived from the name of Ascalon, an ancient city in Israel. Crusaders (1095–1291 A.D.) brought shallots back to Europe from the Middle East, but they first appeared in France as early as 800 A.D.
Pest Control: ***Botrytis Blight,*** also called gray mold, is a common fungal disease of vegetables, grapes, and many flowers. The first signs of infection are tiny, water soaked spots on leaves, stems and fruit. The spots enlarge and become soft and watery, and plant tissues turn light brown and crack open, allowing fuzzy gray spores to emerge. The botrytis fungus over-winters on plant debris, and in the spring, spores are transported to new sites by wind, water, and dirty garden tools. The spores reproduce rapidly during periods of very high humidity or wet weather, and temperatures of 60°–76°F. Plant in well-drained soil, and keep air circulation high with proper spacing. If possible, avoid leaf wetting when watering. To reduce the spread of the disease, remove and discard infected plant parts (do not compost), and clean up garden debris in the fall.

In the Kitchen

How to Store: FRESH: Store in a cool, dry, well-ventilated area. Do not store shallots in the refrigerator.
Recipe: SHALLOT VINAIGRETTE: 1½ tbsp. Dijon mustard, 3 tbsp. finely chopped shallots, 1/4 c. white wine vinegar, 3/4 c. extra virgin olive oil, 1 tbsp. honey, salt and pepper to taste. Whisk all ingredients until blended. Use as a dressing or marinade.

Illustrated by: Carolyn Crawford

Your Average Last Day of Frost

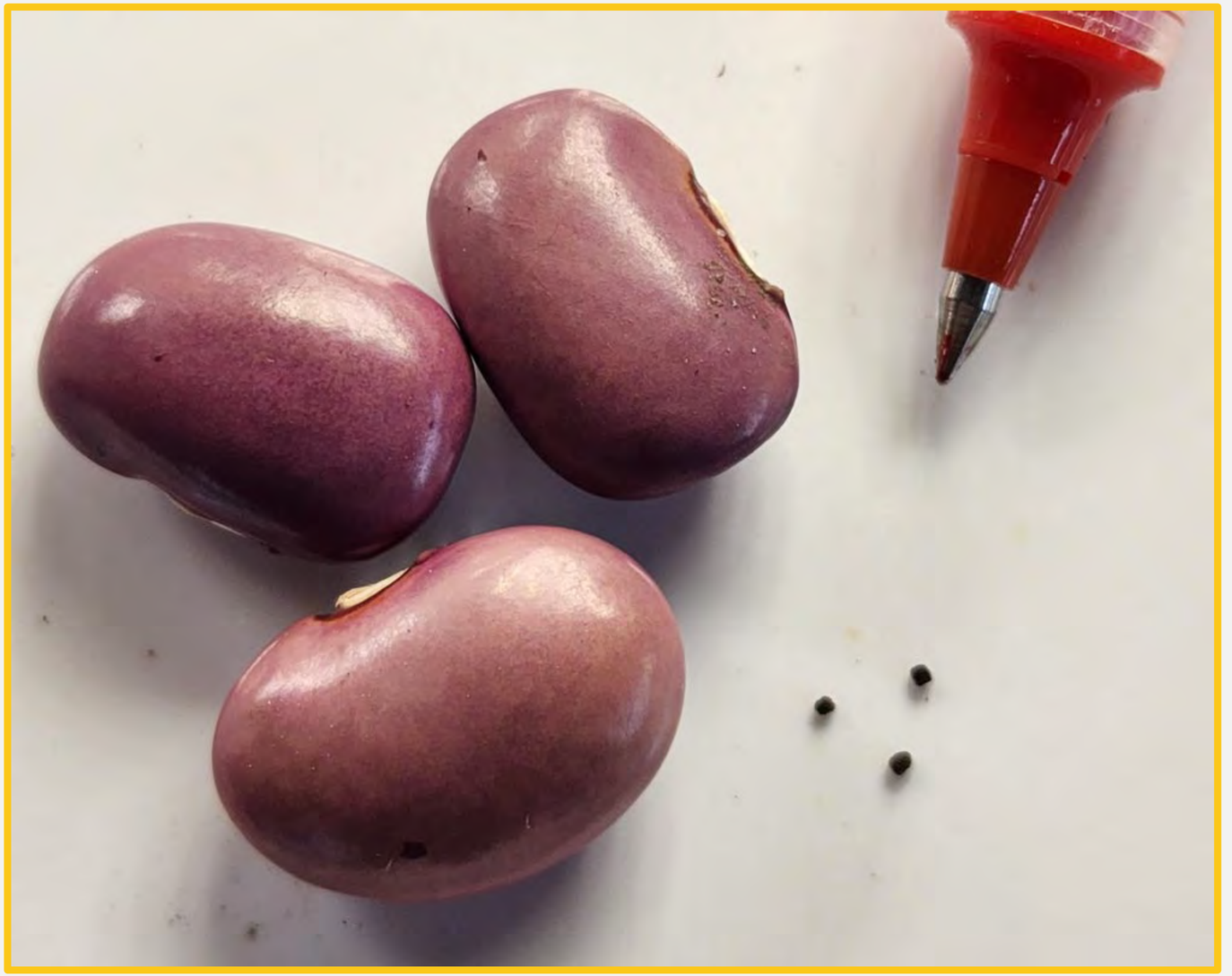
The average last day of frost (32°F or less) is defined as "the first day in spring on which there is less than a 50% chance a frost will occur." This information is crucial when planting a garden. To find out your average last day of frost, call your local independent garden center or your local Cooperative Extension. Also inquire about the average date of the first fall frost.

SEED BIOLOGY & GERMINATION

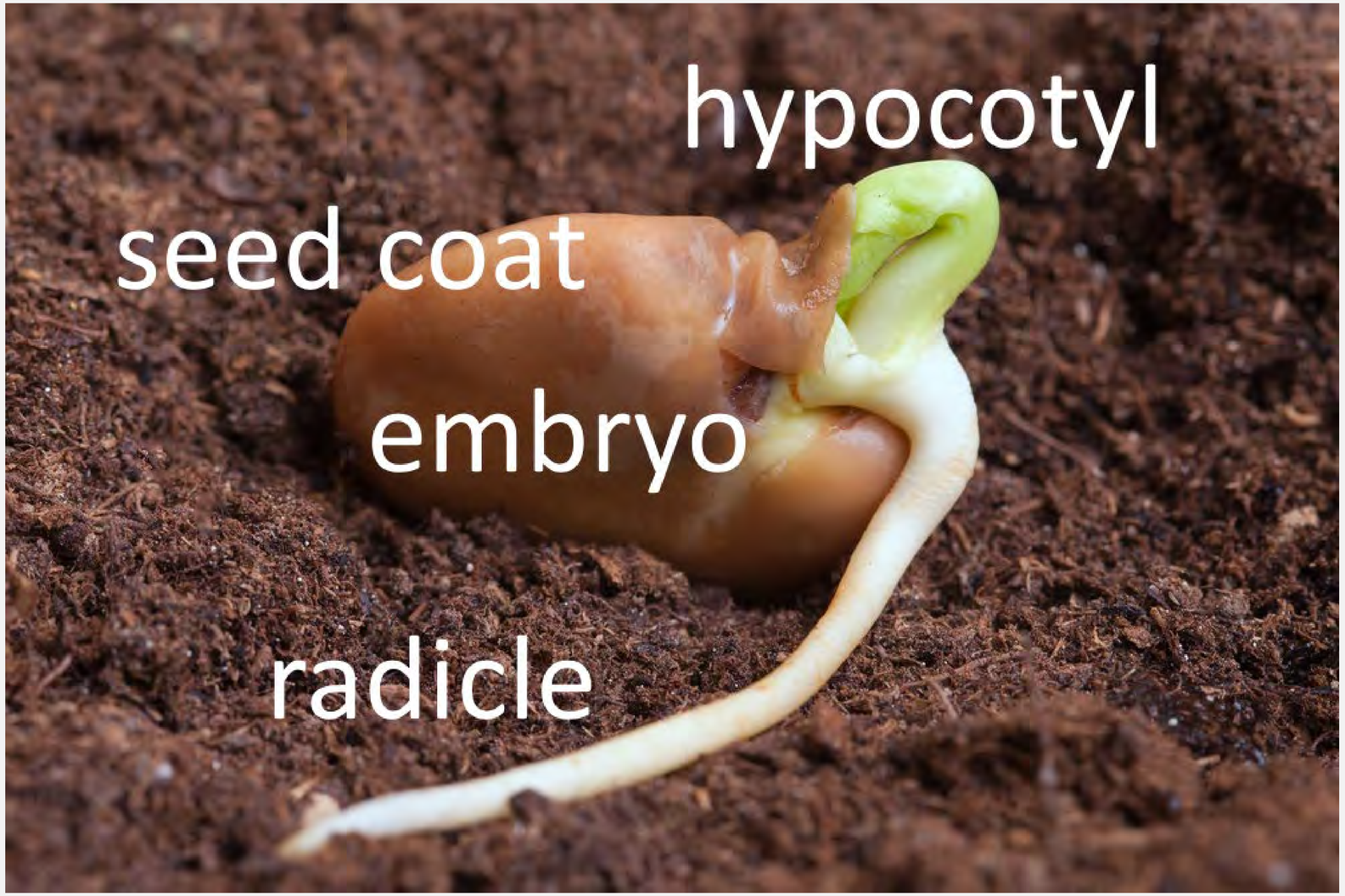
SEED BIOLOGY

Seeds are alive!

Inside every fully developed seed is a seed embryo or endosperm, which is wrapped in a seed coat. Endosperm contains all the food (energy) needed to send up the initial shoot and sustain the seedling for about 4 weeks.



SEED BIOLOGY



SEED BIOLOGY

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Five Elements Necessary for Germination

- Proper Soil Temperature
- Soil Moisture
- Oxygen
- Light
- Seed to Soil Contact (when growing in soil)

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Proper Soil Temperature

- Every seed has a specific minimum, maximum, and optimal soil temperature for germination.
- Above or below, the seed will remain dormant – Thermo-dormancy.
- The optimal temperature produces the most rapid and uniform germination.

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Germination Soil Temps for Lettuce

- Germination temperature range: 40 to 80 degrees F.
- Optimal soil temp: 65 degrees F.
- Above or below, the seed will remain dormant.
- Cool-season crop; not often planted in summer.

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Germination Soil Temps for Tomatoes

- Germination temperature range: 50 to 95 degrees F.
- Optimal soil temp: 70 to 80 degrees F.
- Above or below, the seed will remain dormant.
- Warm-season crop; started indoors 6-8 weeks before planting out.

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Soil Moisture

Field capacity is the amount of water held in soil after the excess water has drained away.

Soil moisture should be 50 to 75% of field capacity.

Just remember: Damp Sponge!!

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Oxygen

All living things require oxygen – including seeds!

Seeds need oxygen to begin metabolizing proteins.

Soil that is too saturated with water or compacted will inhibit oxygen and germination.

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Light

All seedlings need light to grow.

Most seeds germinate best in dark conditions.

There are a few exceptions…

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Some Seeds Are Photoblastic

Photoblastic: Germination is influenced by light or the lack of it.

Seeds that need light to germinate are “positively photoblastic.” Lettuces.

Seeds whose germination is inhibited by light are “negatively photoblastic.” Chives, onions, fennel, parsley.

SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Check the Seed Packet!

When to sow outside: RECOMMENDED. 2 to 4 weeks before your average last frost date, when soil temperature is at least 40°F, ideally 60°–70°F. *Successive Sowings:* Every 3 weeks until 2 weeks before your average first fall frost date. *Mild Climates:* Also sow in fall for winter harvest.

When to start inside: Transplanting is not recommended, although mesclun can be grown indoors on a sunny windowsill or under grow lights.

Special germination instructions: Light aids germination; sow shallowly. Soil temperatures over 80°F hinder germination; see inside packet for tips.

Days to Emerge: 5 – 14 Days

Seed Depth: Surface to 1/8"

Seed Spacing: Broadcast about 1/2" apart

Row Spacing: Not necessary

Thinning: Not required

THIS MIX OF 9 GREENS INCLUDES:

COMMON NAME	PERCENT OF MIX BY WEIGHT
Lettuce Leaf Red Salad Bowl	25%
Arugula | Rocket	20%
Lettuce Leaf Tango	10%
Lettuce Leaf Royal Oak Leaf	10%
Lettuce Leaf Black Seeded Simpson	10%
Lettuce Leaf Grand Rapids TBR	10%
Lettuce Leaf Red Sails	5%
Curly Endive	5%
Mustard Mizuna	5%

sows up to 33 feet.

Seedling

Days to Emerge: 7 – 14 Days

Seed Depth: 1/4"

Seed Spacing: A group of 3 seeds every 10"

Row Spacing: 10"

Thinning: When 1" tall, thin to 1 every 10"

Date Seed Sown

cut out for plant tag

When to sow outside: *For "bulb":* Midsummer for fall harvest is optimal; ideal soil temperature is 60°–75°F. *In cool summer areas (under 75°F):* 1 to 2 weeks after your average last frost date. *Mild Climates:* Sow in fall for cool season harvest. *For foliage only:* Every 3 weeks after your average last frost date until midsummer.

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SEED GERMINATION REQUIREMENTS: WHAT IT TAKES TO GROW!

Seed to Soil Contact

- Seeds need good contact with the soil for germination.
- Takes up water from the soil to break dormancy
- The seed radicle (infant root) draws moisture from the soil and it also anchors the seedling. It’s the seed’s lifeline.

THE STAGES OF GERMINATION

Stage 1: Imbibition

- When conditions are right for germination, a dry seed comes into contact with water to break dormancy. It takes up or “imbibes” water through the seed coat.
- This causes the seed to soften and swell, breaking dormancy, and triggers the metabolic process to begin.
- It wakes up or kick-starts the seed!

THE STAGES OF GERMINATION

Stage 2: Interim, Lag, or Waiting Game!

- The embryo begins to make proteins and metabolize the stored energy in preparation for actual germination.
- This stage causes the most “nail-biting” and anxiety for home gardeners!

THE STAGES OF GERMINATION

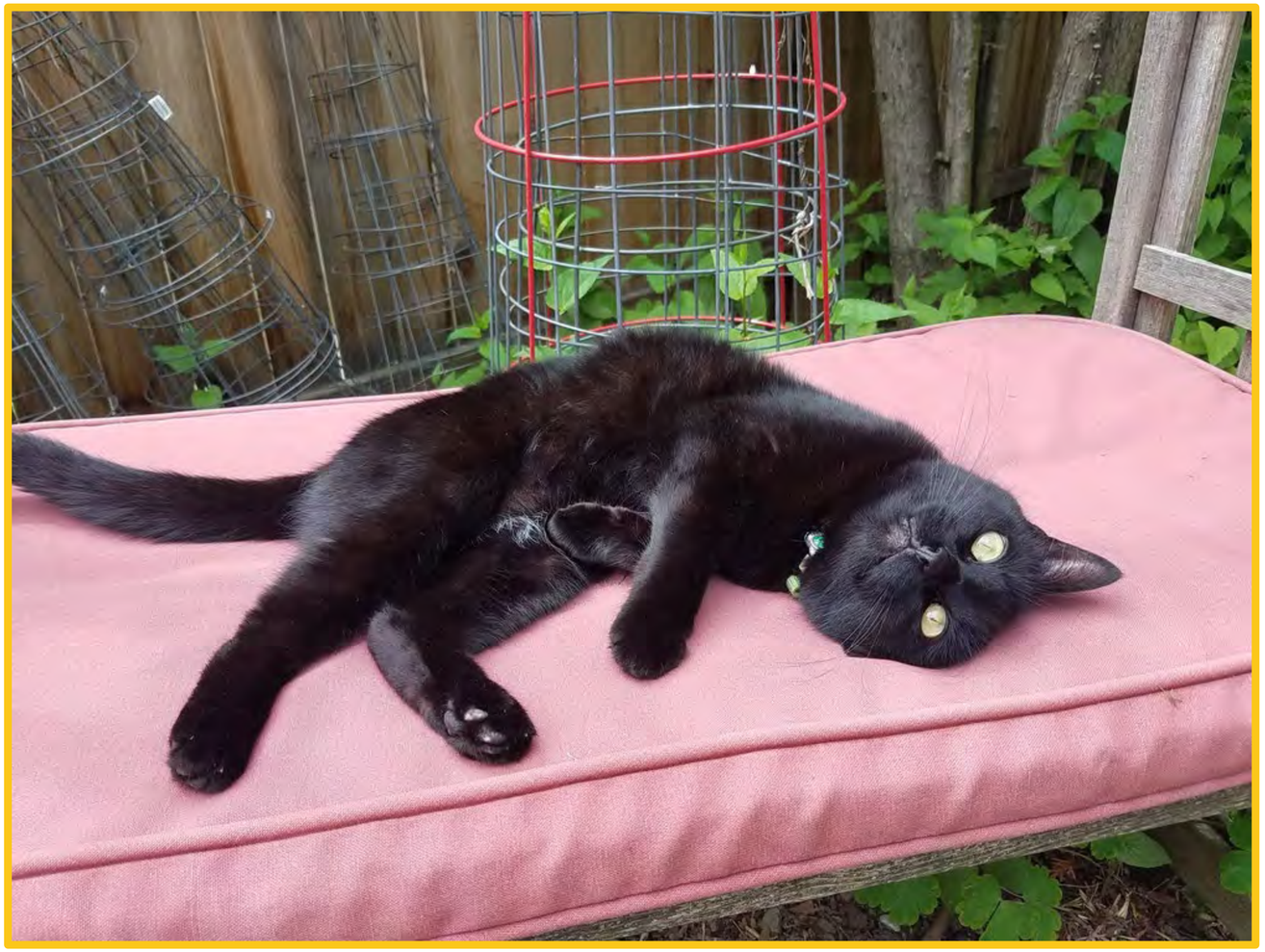
Stage 3: Emergence

- The seed produces a radicle – the first root of the plant.
- Next the hypocotyl forms its backward hook and begins to rise up through the soil.
- The hypocotyl breaks the soil surface and the first leaves, the cotyledons, open.
- https://youtu.be/w77zPAtVTuI

THE STAGES OF GERMINATION

Stage 3: Emergence!

LET'S TAKE A QUICK BREAK!



WHY SEEDS FAIL TO GERMINATE

Number One Reason: The Soil Is Too Wet

- Overly wet soil forces oxygen out of the soil. Seeds need oxygen to germinate, and they will essentially drown and rot in wet soil.
- Remember the “damp sponge” for soil moisture!
- When starting seeds, always err on the “dry side. " It's better to be a little dry than wet.

WHY SEEDS FAIL TO GERMINATE

Soil is Too Wet

- Risk developing the fungal disease “dampening off.” Plant stem rots at the soil line.
- Mold can grow on the surface.

WHY SEEDS FAIL TO GERMINATE

Using Incorrect Growing Medium/ Lack of Gas Exchange in the Soil

- Soil-less germination (seed-starting mix) is light/fluffy!
- Space for O2 and CO2 exchange between the embryo and the soil.
- Often sterile – disease free.
- Avoid using coarse/heavy potting soils or garden soil for seed starting.

WHY SEEDS FAIL TO GERMINATE

Seed Was Planted Too Deep

- Find sowing information on the seed packet and follow it.
- The seed can use all its energy trying to reach the soil surface.
- Seed is positively photoblastic and requires light to germinate.

WHY SEEDS FAIL TO GERMINATE

The Seed is Chemically Dormant

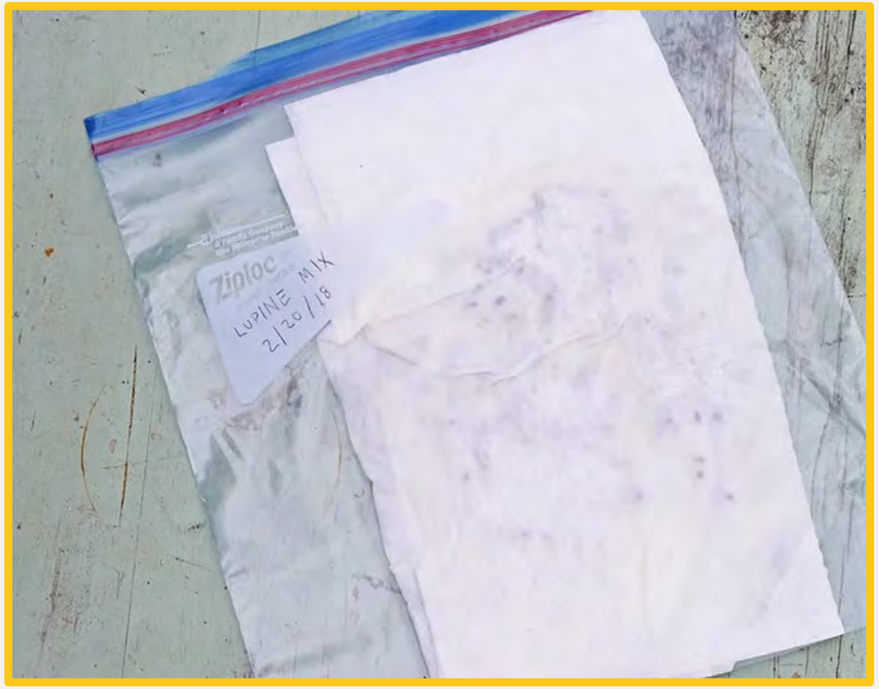
Plant hormones inhibit germination and protects the seed from germinating too soon. Seeds need a period of exposure to moisture and cooler temperatures to break dormancy.

Common seeds include: coneflowers, rosemary, milkweed, pansies/violas, lupines.

WHY SEEDS FAIL TO GERMINATE

Overcoming Chemical Dormancy with Stratification

- Place seeds in damp paper towel or moist growing mix in a plastic bag, loosely sealed (needs air!).
- Refrigerate for 4 to 8 weeks. Time varies for each seed type.
- Check regularly for moisture.
- This artificial “cold snap” wakes up the seed!



WHY SEEDS FAIL TO GERMINATE

The Seed is Physically Dormant

Some seeds have a hard, thick seed coat which needs to be breached in some way to let moisture in.

Common seeds include: spinach, nasturtiums, peas, beans

WHY SEEDS FAIL TO GERMINATE

Overcoming Physical Dormancy with Scarification

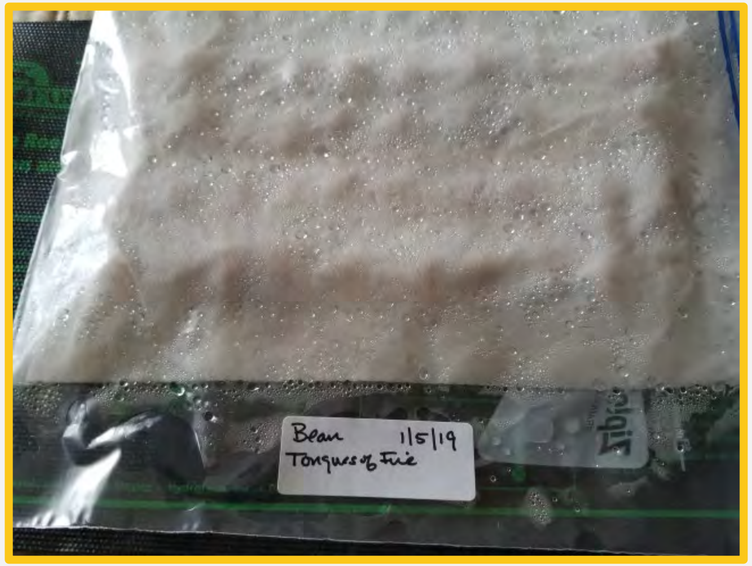
- Remove part of the hard seed coat to allow moisture in. Use a file or sandpaper.

- Soak seeds in warm water.

WHY SEEDS FAIL TO GERMINATE

The Seed Is Not Viable

- Old or poor quality seed.
- Unsure? Perform a germination test before planting.
- Store seeds properly in a dry, cool, dark place.
- Avoid hot/humid environments.
- Can be stored in the refrigerator or freezer.



TIMING IS EVERYTHING

WHEN TO START SEEDS -- TIMING IS EVERYTHING

- Our average growing season is 120 frost-free days from mid-May through September.
- USDA Growing Zone 6, *but* zone 5 may be more accurate for some varieties.
- Our region is prone to extreme temperature ranges.

WHEN TO START SEEDS -- TIMING IS EVERYTHING

The most important date to know:

YOUR LAST AVERAGE DAY OF FROST

For Coeur d'Alene it is usually **May 15th**

BUT,

Can Vary by WEEKS both Regionally and by Micro-climates

See Percentage of Frost Dates Handout to determine frost dates

WHEN TO START SEEDS -- TIMING IS EVERYTHING

Kootenai & Shoshone Percentage of Frost Dates

Compiled by National Gardening Association

University of Idaho Extension
Kootenai County
958 South Lochsa St
Post Falls, ID 83854

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Percentage = Possibility of that temperature on that date

Light frost 36° to 32° - Hard frost below 28°

Athol, Idaho

In the Spring

Temperature	10%	20%	30%	40%	50%	60%	70%	80%	90%
Last 20°	Apr 12	Apr 2	Mar 26	Mar 20	Mar 14	Mar 8	Mar 2	Feb 23	Feb 13
Last 24°	Apr 18	Apr 13	Apr 9	Apr 5	Apr 2	Mar 30	Mar 26	Mar 22	Mar 16
Last 28°	May 18	May 12	May 8	May 4	May 1	Apr 28	Apr 24	Apr 20	Apr 14
Last 32°	Jun 14	Jun 7	Jun 1	May 27	May 23	May 18	May 14	May 8	May 1
Last 36°	Jul 7	Jun 30	Jun 25	Jun 20	Jun 16	Jun 12	Jun 8	Jun 2	May 26

In the Fall

Temperature	10%	20%	30%	40%	50%	60%	70%	80%	90%
First 20°	Oct 14	Oct 23	Oct 29	Nov 3	Nov 8	Nov 12	Nov 17	Nov 23	Dec 2
First 24°	Sep 27	Oct 5	Oct 11	Oct 16	Oct 21	Oct 25	Oct 30	Nov 5	Nov 13
First 28°	Sep 16	Sep 22	Sep 26	Sep 30	Oct 3	Oct 7	Oct 11	Oct 15	Oct 21
First 32°	Aug 28	Sep 4	Sep 9	Sep 13	Sep 16	Sep 20	Sep 24	Sep 29	Oct 6
First 36°	Aug 21	Aug 26	Aug 30	Sep 3	Sep 6	Sep 9	Sep 12	Sep 16	Sep 21

WHEN TO START SEEDS -- TIMING IS EVERYTHING

Proper timing helps ensure your seedlings have reached the ideal growth stage for transplanting outdoors.

WHEN TO START SEEDS -- TIMING IS EVERYTHING

Use the information on the seed packet to determine when to plant:

“Sow indoors 6 to 8 weeks before last average frost”

Count back 6 to 8 weeks from your last frost date.

That’s the optimal time to start to ensure seedlings are ready to plant outdoors.

WHEN TO START SEEDS -- TIMING IS EVERYTHING

Can you sow seeds too early?

YES!

Sowing seeds indoors too early results in stressed plants.

- Root bound, requiring more “potting up”
- Timing is off and plants will be ready to be transplanted outdoors before conditions are optimal
- Results in leggy, weak plants

Better to start a little late than early!

CONSEQUENCES OF STARTING TOO SOON

DAYS TO GERMINATION

Generally 7 to 21 days
Refer to the seed packet

Dependent upon:

- Soil temperature
- Soil moisture
- Seed quality
- Depth sown
- Light

DAYS TO MATURITY

What does *Days to Maturity* Mean?

The number of days it will take for the plant to produce a harvest (fruit or flowers).

Knowing and understanding DTM will help you determine if a variety will produce a harvest within your growing season.

DAYS TO MATURITY

How to “Count” Days to Maturity

- Direct sown seed: DTM begins once the seedlings emerge and have true leaves. Beans = 60 days from when true leaves pop out.

- Seeds sown indoors or transplants: DTM begins once they are transplanted into the garden/container. Tomatoes = 70 days from transplanting.

- Based on “optimal growing conditions” – days may vary!!

SOWING INDOORS VS SOWING DIRECT

Typically Sown Indoors

- Warm-season crops – tomatoes, peppers, eggplant
- Crops that take longer to germinate or mature – onions, leeks, chives, thyme
- Teeny-tiny seeds – thyme, snapdragons, pansies.

Typically Direct Sown:

- Root crops – carrots, beets, parsnips, fennel
- Large seeds – squash, beans, and peas

Check the Seed Packet

Don’t Be Afraid to Experiment!

SUPPLIES AND EQUIPMENT

SEED STARTING SUPPLIES & EQUIPMENT

- Quality seeds – grow what you love to eat!!
- Quality seed-starting medium
- Clean growing containers or disinfect 10:1 water/bleach 5 min.
- Plant trays – for watering, protecting surfaces
- Clear covers for containers (lids or plastic wrap)
- Plant tags – so important!!
- Spray bottle / small watering can
- Heat Propagation mat
- LED shop or grow lights
- Garden Journal – keep track of what/when

CHECK OUT THE DOLLAR STORE FOR…

- Clear plastic food containers with lids that can be repurposed for seed starting.
- Plastic totes or cloches to cover tender seedlings
- Garden gloves
- Aluminum roasters for plant trays – for watering, protecting surfaces
- Craft sticks for plant tags
- Spray bottle / small watering can
- Garden snips
- **Avoid seeds, soil, and larger tools or pruners (or know they won’t last long)**

SEED STARTING SUPPLIES & EQUIPMENT

Let’s Be Clear…

Soil is what you plant in!

SEED STARTING SUPPLIES & EQUIPMENT

Soil Matters!

- Use a mix specifically for seed-starting.
- “Soil-less” -- usually finely screened peat or coir, with perlite or vermiculite.
- Naturally disease free.
- May contain some nutrients – worm castings or very fine compost.

SEED STARTING SUPPLIES & EQUIPMENT

Soil Matters!

- Potting soils may be too coarse for small seeds and may contain ingredients not needed – including fertilizers
- Garden soil is too heavy and too compact to provide sufficient air circulation within the space of a small growing container. And it carries the potential for disease pathogens.

SEED STARTING SUPPLIES & EQUIPMENT

Containers

- Just about anything can be used!
  - Food containers, yogurt cups, paper cups, toilet rolls
  - Clean (10:1 water/bleach 5 min.)
  - Needs good drainage
- Peat pots, plastic pots, cow pots, paper pots – Avoid peat plugs!!
- Modular plug flats, cell-inserts, flat trays.

SEED STARTING SUPPLIES & EQUIPMENT

LED Grow or Shop Lights

- Seedlings need at least 12 to 16 hours of light per day.
- Set lights on a timer
- Position lights about 3 to 4 inches over newly emerging seedlings. Move up as the seedlings grow.
- Be cautious with “hot” grow lights – LEDs are cooler and save energy.
- Terrific results with LED shop lights
- 2900 Lumens minimum

SEED STARTING SUPPLIES & EQUIPMENT

Turn on the Heat for Greater Success

Germination Mat

- Greatly improves germination
- Remove once the seedlings emerge (or raise off the heat)

SEED STARTING SUPPLIES & EQUIPMENT

SEED STARTING SUPPLIES & EQUIPMENT

A Few “Extras” Make a Difference!

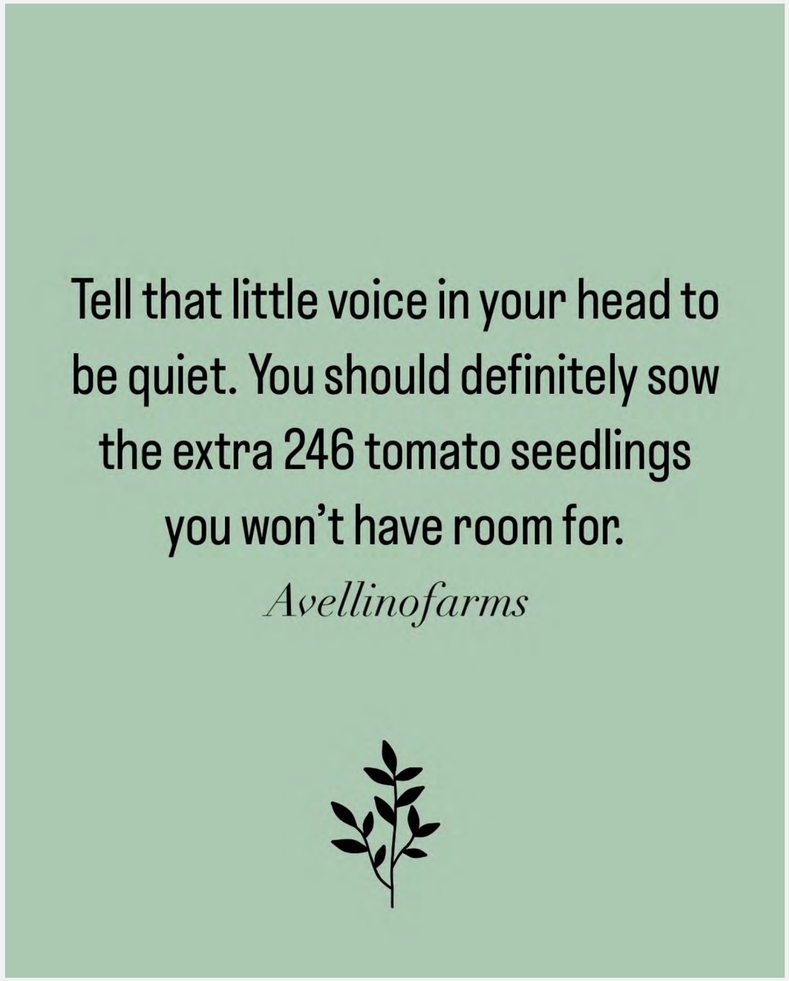
Shelving Unit

- Great space saver!
- Fits up to 20 growing trays.
- Lights easily attach/raise up
- Drape with emergency heat blanket (silver foil) for added warmth.
- Storage for the off-season!

HERE'S HOW I START SEEDS…

Quick Demo on Seed Starting

HERE'S HOW I START SEEDS...



PRO TIPS

Starting plants from seed takes time and dedication.

Seeds should be monitored daily!

PRO TIPS

- Warm and lightly moisten your seed-starting mix BEFORE planting.
- Pre-soak peat pots (warm water)
- Fill the container with soil and lightly compress. Leave enough space to plant the seed.

PRO TIPS

- Spray the soil, plant the seed, spray the seed, cover the seed with soil to the appropriate depth, and spray the soil.
- Cover the container/tray
- Once germinated, remove the cover, heat, and ensure the lights are on!

POTTING UP

Pricking Out & Potting Up

- Seedling can be potted up once the “true leaves” form.
- By 4-weeks of growth
- See roots emerging from the bottom of the cell.
- Transplant to 3.5 or 4-inch pots. One seedling per pot!
- Soil medium should be rich in organic compost, worm castings.

POTTING UP

How To Prick Out

- Use a spoon, or pop the plug from the bottom.
- Select the best/strongest seedlings
- Handle by the leaves – not the stem.
- Use a chopstick, dibbler, or your finger to create a hole and pop the seedling in.

POTTING UP

Watering Seedlings

- Once transplanted, bottom water
- Fill tray with about an inch of water
- Slow uptake of water
- Ensures even watering (water on flat surface)
- Keeps foliage dry & prevents disease
- Time saver.

HARDENING OFF

Ready for the Real World!

- Getting seedlings/young plants acclimated to outdoors.
- About 7 to 10 days before planting out.
- Strive for a warm, calm, overcast day.
- Shady area. Protect from wind and direct sun.

HARDENING OFF

- Start with 30 minutes, gradually increase time and exposure.
- Plastic bins, cold frame, low tunnel, or greenhouse are great options.

TIME TO PLANT OUTSIDE!

- Plant cool-season crops once the soil is workable.
- Keep frost protection handy!
- Do NOT plant warm-season crops until soil & air is at least 50 degrees.
- Most veggies need at least 6 hours of sunlight.
- Feed your soil with quality compost (1 to 2 inches) to reduce the need for fertilizers.

KEY POINTS…

- Know your frost date
- Read the seed packet
- Don’t start too soon
- Start small
- Water with care
- Experiment
- Don’t be afraid to fail – you’ll learn more!
- HAVE FUN!!

THANK YOU!

For Seed Charts & A Special Discount:

TheCoeurdAleneCoop.com/Seed-Class

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