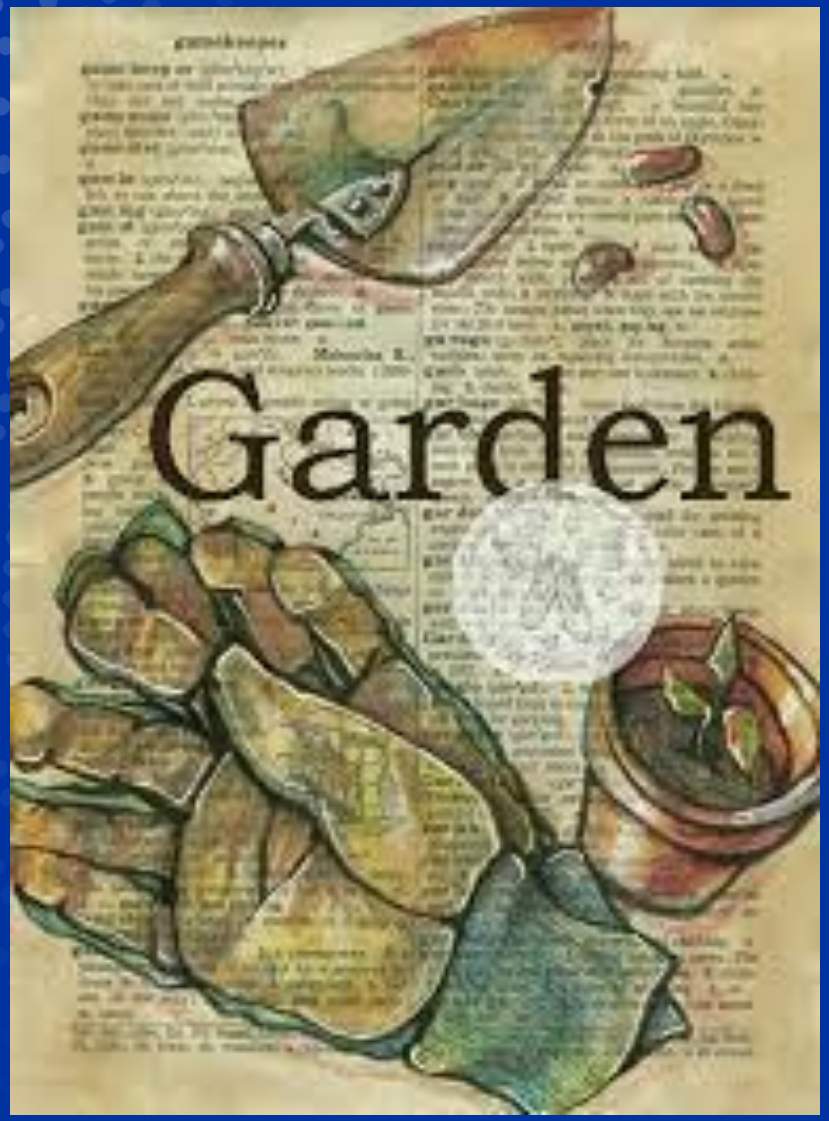
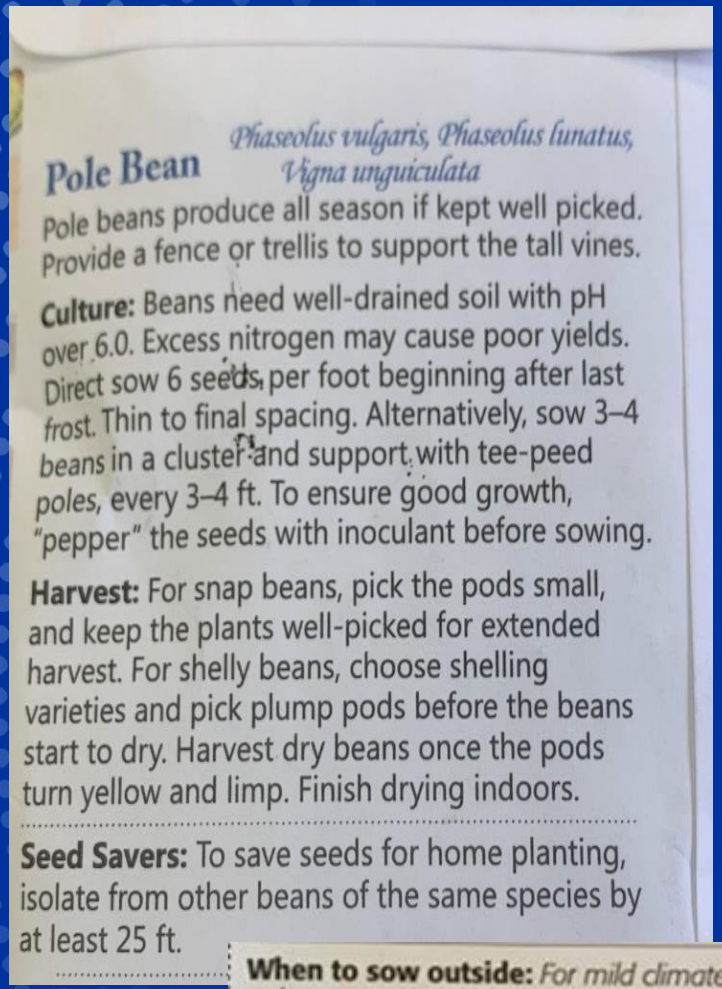


SAY WHAT?

SEED PACKET TERMINOLOGY YOU MAY NEED TO KNOW

BY Sharon Flynt, Agent for Horticulture, Scott County Cooperative Extension

INFORMATION FOUND ON MOST SEED PACKETS



Pole Bean *Phaseolus vulgaris, Phaseolus lunatus, Vigna unguiculata*

Pole beans produce all season if kept well picked. Provide a fence or trellis to support the tall vines.

Culture: Beans need well-drained soil with pH over 6.0. Excess nitrogen may cause poor yields. Direct sow 6 seeds per foot beginning after last frost. Thin to final spacing. Alternatively, sow 3–4 beans in a cluster and support with tee-peed poles, every 3–4 ft. To ensure good growth, "pepper" the seeds with inoculant before sowing.

Harvest: For snap beans, pick the pods small, and keep the plants well-picked for extended harvest. For shelly beans, choose shelling varieties and pick plump pods before the beans start to dry. Harvest dry beans once the pods turn yellow and limp. Finish drying indoors.

Seed Savers: To save seeds for home planting, isolate from other beans of the same species by at least 25 ft.

When to sow outside: *For mild climates only:* 1 to 2 weeks after your average last frost date, and when soil temperature is at least 60°F.
When to start inside: RECOMMENDED. 4 to 6 weeks before transplanting. Transplant when air temperature is 45°F or warmer, usually 1 to 2 weeks after your average last frost date. Ideal soil temperature for germination is 70°–90°F.

- NAME OF SEED
- PICTURE OF THE MATURE PLANT WITH FRUIT/FLOWERS
- WHEN TO PLANT
- KEY PHRASES SUCH AS DIRECT SOW, SOW INDOORS, START INDOORS
- CULTURE
- HARVEST/MATURITY DATE
- YEAR SEEDS FOR WHICH SEEDS WERE PACKAGED
- DEPENDING ON HOW CREATIVE A SEED COMPA IS THERE COULD BE 8 TO 20 + BITS OF INFORMATION ON THE PACKET

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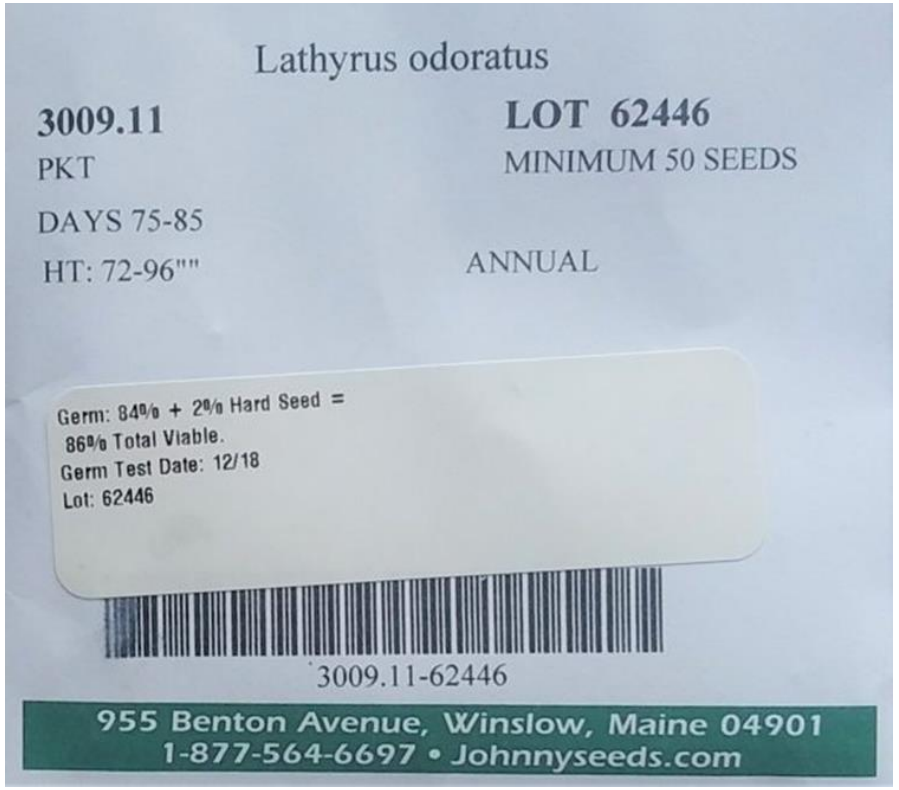
SEED PACKET BACK

- NOTE SPOT FOR GARDENER
- GERMINATION RATE/VIABILITY
- PURITY RATE
- LOT NUMBERS
- SCIENTIFIC NAME
- NUMBER OF SEED IN THE PACKET
- SOMETIMES THERE IS ADDITIONAL **TERMINOLOGY** WHERE A GARDENER MAY NEED **CLARIFICATION**



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CULTIVAR

- DERIVED FROM TERM “CULTIVATED VARIETY”
- CULTIVATED PLANT SELECTED FOR DESIRED TRAIT
- PROPAGATED RETAIN THOSE TRAITS
- PROPAGATION METHODS CAN INCLUDE
  - ROOT OR STEM CUTTINGS, GRAFTING, TISSUE CULTURE
  - CAREFULLY CONTROLLED SEED PRODUCTION
  - SEED-GROWN CULTIVARS ARE EITHER A HYBRID OR OPEN-POLLINATED VARIETY

SCIENTIFIC NOMENCLATURE

presented as the ‘variety name’

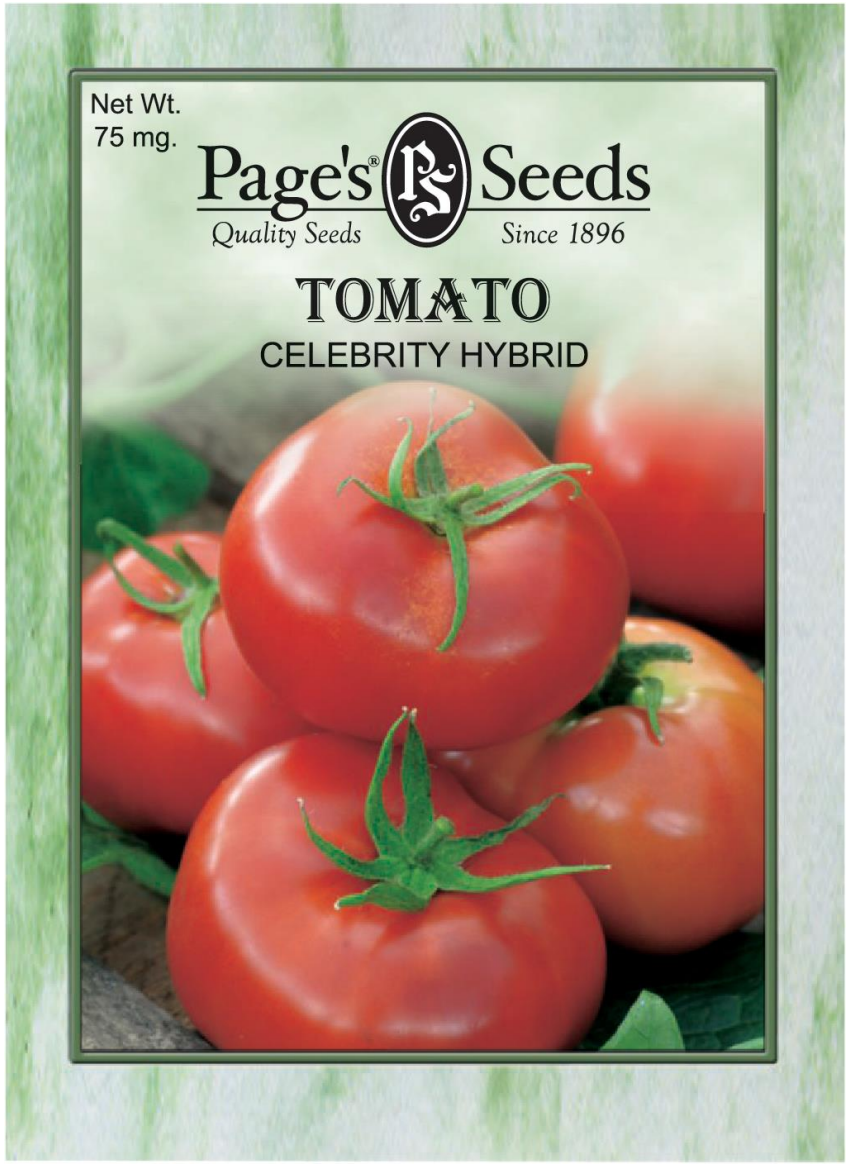
after the genus and species

Solanum lycopersicum ‘Gardener's Favorite’

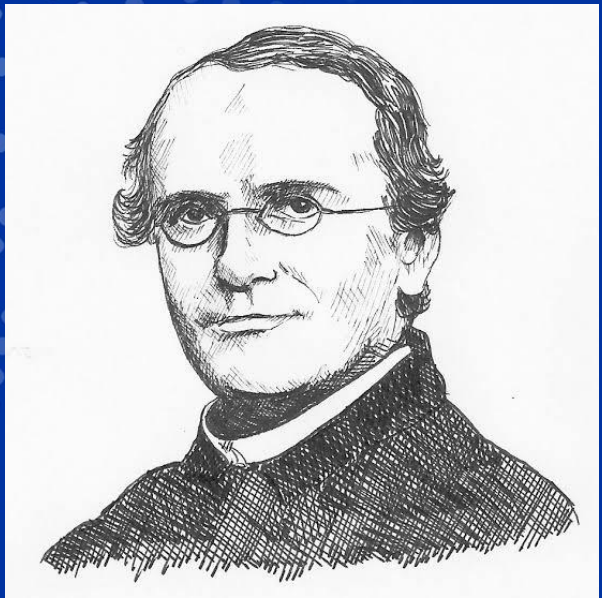
HYBRID

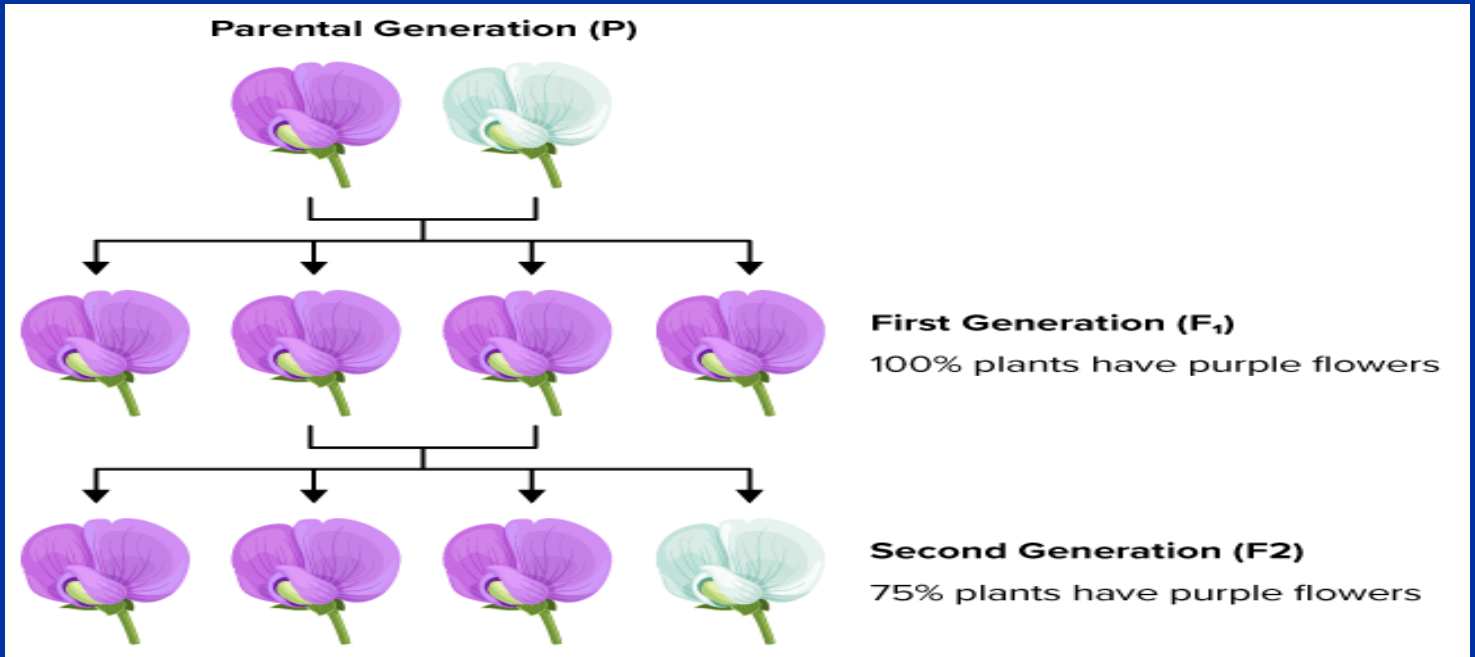
FIRST-GENERATION HYBRID - (F1)

- OCCURS WHEN BREEDER SELECTS TWO PURE LINES (PLANTS THAT PRODUCE IDENTICAL OFFSPRING WHEN SELF-POLLINATED) AND CROSS-POLLINATES THEM TO PRODUCE A SEED THAT COMBINES DESIRABLE CHARACTERISTICS (TRAITS) FROM BOTH PARENTS
- COMMON TRAITS - DISEASE RESISTANCE, UNIFORMITY, EARLINESS, HIGH NUTRITION, OR COLOR



F1 HYBRIDS





- **pure lines must be consistently maintained so that F1 seed can be produced each year**
- **process of cross-pollinating is often done by hand**
- **seeds saved/planted from F1 hybrids - <u>plants grown from that seed (F2) will not come true</u>**

OPEN POLLINATED

- Plants that have been pollinated naturally, either by cross-pollination or self-pollination
  - Cross-pollination methods - wind, water, or pollinators like bees, other insects, birds
  - Self-pollination, a plant has both female and male parts and can pollinate itself
- Open-pollinated seeds aka “true to type” or “true to seed”
  - result of the natural pollination of two plants of the same variety
  - When planted, open-pollinated seeds should have the same characteristics as the parent plant
  - Contrast to hybrid seeds, which are the result of manually pollinating two different varieties to achieve a new variety with characteristics from both

HEIRLOOMS

- THE ROMANTIC VIEW OF HEIRLOOMS IS THAT THEY ARE VARIETIES THAT HAVE BEEN PASSED DOWN THROUGH GENERATIONS OF GARDENERS
- TRUE IN THE PAST, NOT THE CASE TODAY
- COMMERCIAL SEED COMPANIES NOW PRODUCE SEEDS FOR MANY CELEBRATED HEIRLOOMS AND SELL THEM TO SEED PACKET COMPANIES TO OFFER TO HOME GARDENERS

Mam's Pole beans 1842

Gramdmam's Pole Beans 1885

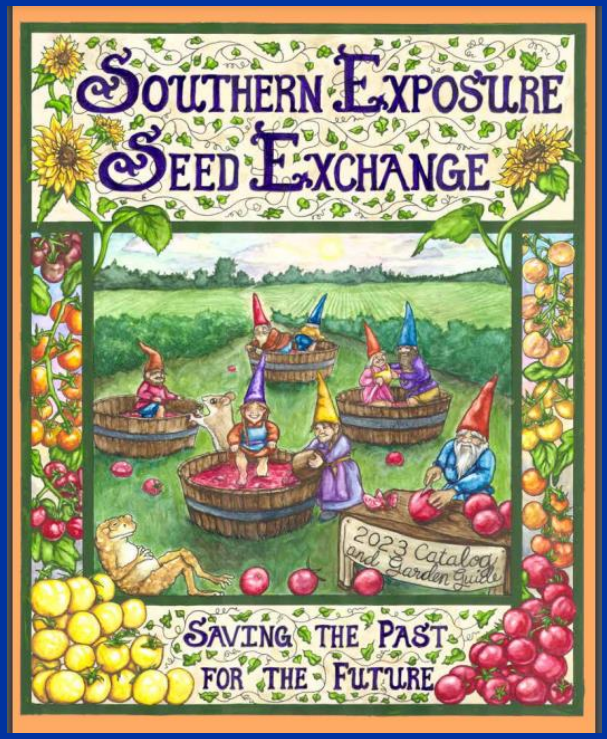
Granny's greasy beans 1928

Granny's greasy beans 1944

Miss Virgie's Greasy Bean 1992

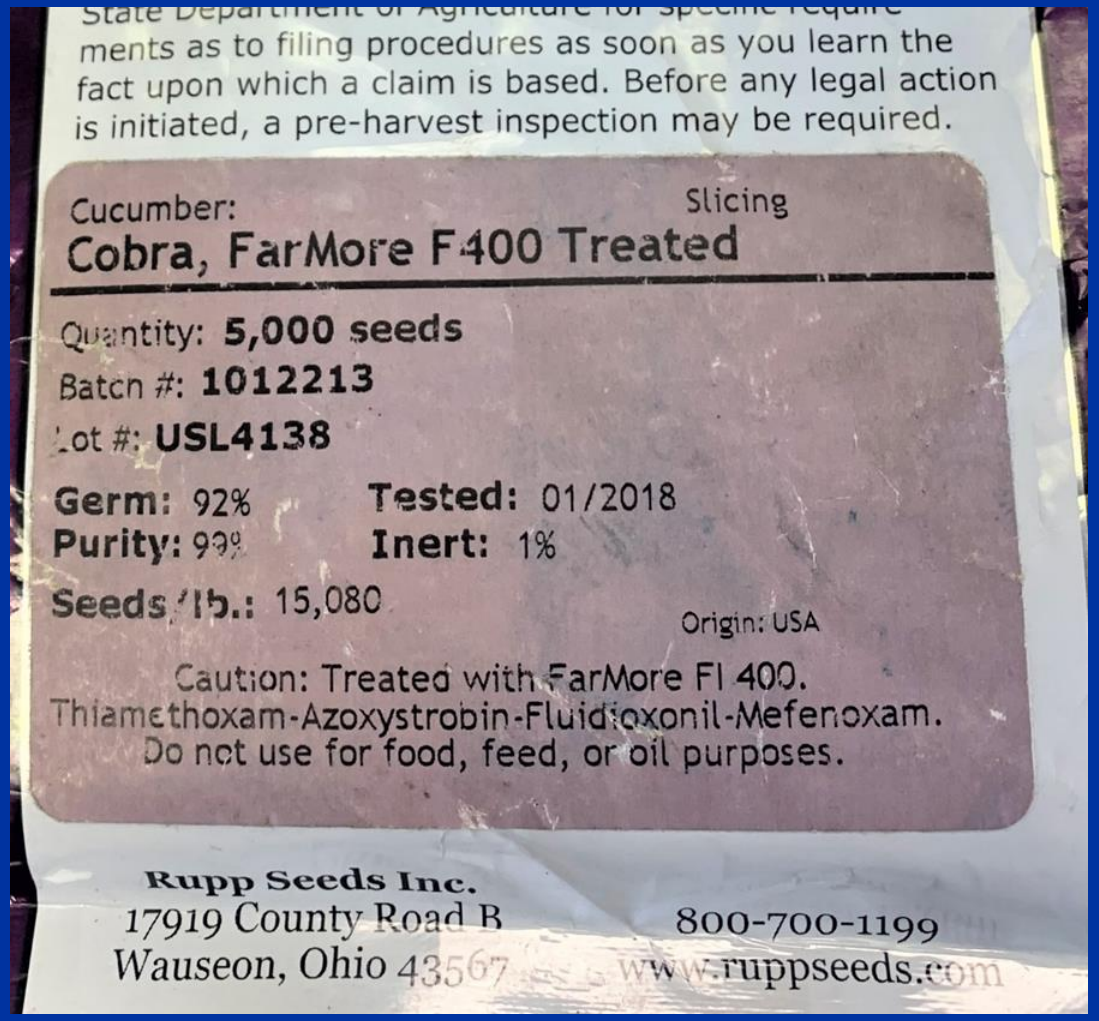
HEIRLOOMS

- GENERALLY OPEN-POLLINATED VARIETIES RESULTING FROM NATURAL SELECTION RATHER THAN A CONTROLLED HYBRIDIZATION PROCESS
- 50 YEARS AS AN ARBITRARY AGE MARKER TO DEFINE WHAT CONSTITUTES AN HEIRLOOM VARIETY
- SOME CLASSIFY ANY CULTIVATED VARIETY AS AN HEIRLOOM IF IT WAS DEVELOPED PRIOR TO THE 1940S AND 50S
- LIKE ANY OTHER OPEN-POLLINATED VARIETY, SEED SAVED FROM AN HEIRLOOM PRODUCES PLANTS WITH THE SAME CHARACTERISTICS AS THE PARENT PLANT



TREATED SEEDS

- GENERALLY COATED WITH A FUNGICIDE—READ PACKAGING LABEL FOR SPECIFICS ABOUT THE TREATMENT.
- TREATED SEED IS AVAILABLE PRIMARILY FOR COMMERCIAL CROPS
  - USED TO PROTECT GERMINATING SEED IN THE FIELD FROM PATHOGENS WHEN PLANTED IN COLD OR WET SOIL
- CURRENT RULES FOR USDA-CERTIFIED ORGANIC PRODUCTION PROHIBIT THE USE OF TREATED SEED.



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DISEASE RESISTANCE

- Because of their genetic makeup, resistant varieties are able to withstand some plant pathogens
- Resistance varieties should be used by gardeners to help combat disease with minimal chemical inputs
- specifically beneficial if
  - a particular disease has appeared in the garden multiple times
  - for any disease that is soil-borne

RESISTANCE VARIES

- symptoms may develop when conditions are highly favorable for disease development
- Resistance is rarely complete immunity
  - Resistant varieties vary in their ability to suppress disease development
  - HR - high resistance abbreviation used for varieties that highly restrict to pathogen infection and development
  - IR - intermediate resistance – not as strong resistance as found in HR
    - May have to use fungicides in disease management program

NON - GMO

- GMO-FREE OR NON-GMO
- MISLEADING? YOU DECIDE
  - majority of seeds grown in/ home garden do not have a genetic modified counter-part
  - Only 12 genetically engineered crops have been approved in the US, and only 10 of those are currently produced

CURRENTLY IN UNITED STATES, YOU MUST SIGN AN AGREEMENT WITH COMPANY THAT HOLDS THE PATENT STATING THAT YOU WILL NOT MISUSE THE CROP OR PROPAGATE IT WHEN PURCHASING GENETICALLY ENGINEERED SEEDS OR PLANTS,

IF THERE AREN'T ANY GMOS AVAILABLE TO HOME GARDENERS, WHY DO SEED COMPANIES CARRY THAT LABEL ON THEIR PACKETS?

MARKETING

NON GMO Project VERIFIED
nongmoproject.org

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Cornell CALS
College of Agriculture and Life Sciences

SCAN ME

- **Most seed catalogs and websites have charts for each vegetable type that list relevant diseases and the abbreviations to look for in the plant descriptions**

ABBREVIATIONS USED BY JOHNNY'S SEEDS WEBSITE/CATALOGUE

SCAN ME

Abbreviations are not standardized. always refer to the KEY

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SEED PACKET BACK

- NOTE SPOT FOR GARDENER
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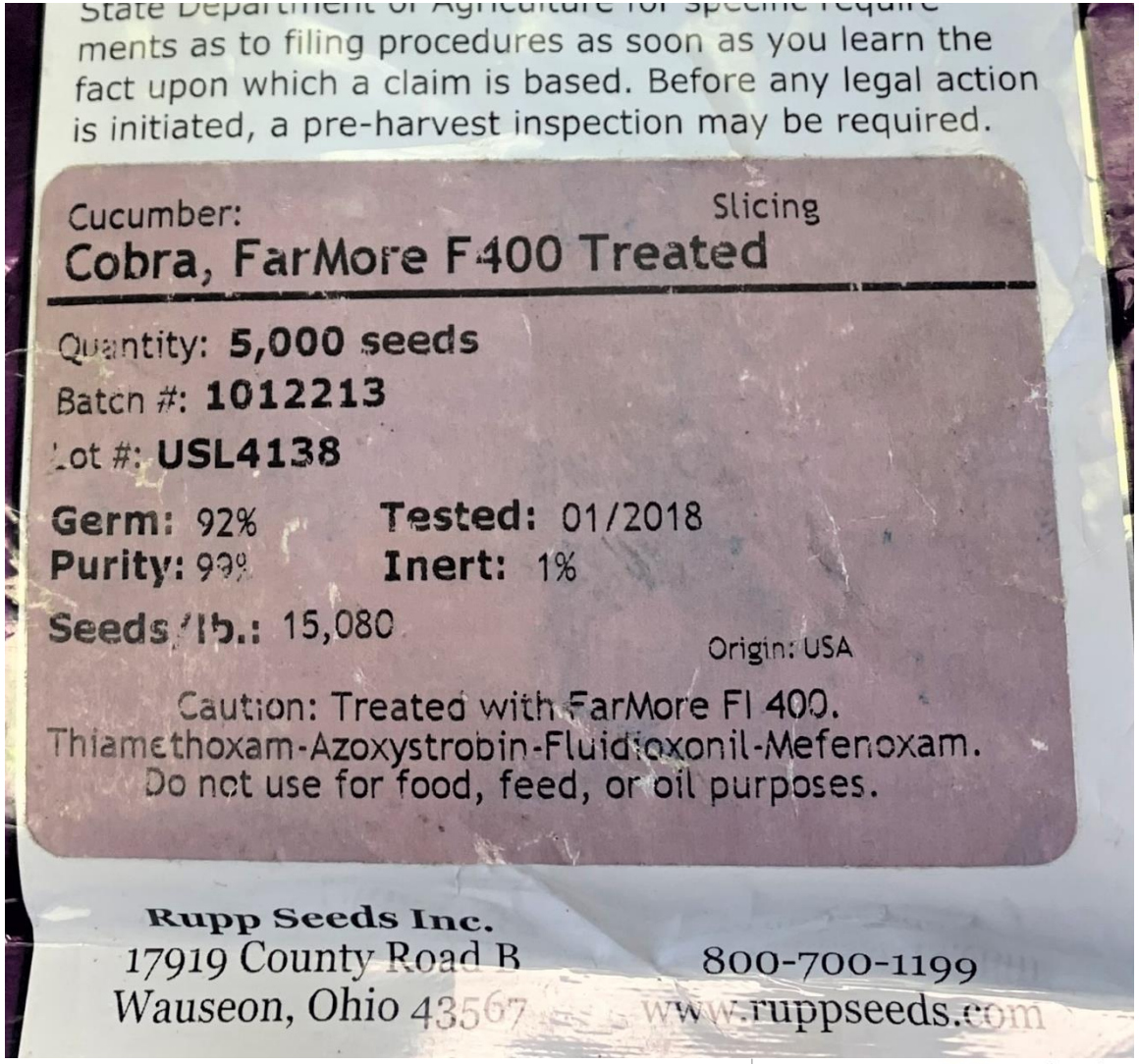

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ORGANIC

CERTIFIED ORGANIC

- Producer practices have been certified to meet the requirements laid down by a certifying agency
- A certifying agency could be a non-profit or a state department of agriculture
- NON STANDARDIZED
  - requirements and practices vary from entity to entity

USDA CERTIFIED ORGANIC

- producer certified by the USDA as a follower of the guidelines set forth by the National Organic Program (NOP)
- seen as the most stringent of the certifications, and is standardized nation-wide

ALL AMERICAN SELECTION (AAS)

- FLOWERS AND VEGETABLES THAT HAVE BEEN "TESTED NATIONALLY & PROVEN LOCALLY.™"
- ENTRIES ARE TESTED FOR SUPERIOR GARDEN PERFORMANCE BY HORTICULTURE PROFESSIONALS ACROSS NORTH AMERICA

All-America Selections
https://all-americaselections.org

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Home Garden Seed Association (HGSA) website. HGSA is a group of seed producers and seed packet retailers committed to supporting home gardening success, specifically through the use of seeds.

https://pageseed.com/product/tomato-celebrity-hybrid/

https://empressofdirt.net/victory-gardens

University of Nebraska- Lincoln
https://communityenvironment.unl.edu/translating-language-seed-packets-hybrid-heirloom-non-gmo-and-more

All-America Selections
https://all-americaselections.org

https://today.oregonstate.edu/news/learn-terms-seed-packets-make-right-selection-1

https://gardens.si.edu/

University of Minnesota Extension
https://blog-fruit-vegetable-ipm.extension.umn.edu/2019/01/buying-best-seed-for-disease-free-crop.html#:~:text=Plant%20Disease%20Resistant%20Varieties