

INVESTIGATING SEEDS
MY LEARNING LOG
CBA wood technology 2020

ANALYSIS AND RESEARCH

Seedlings need:

- Moist but not soggy soil.
- Space- constantly repot infant plants.
- Light- try a 40 watt bulb or a south facing window. (Plants don't need much light before germination).
- Warmth before sprouting
- Depth in soil- don't plant too deep.



Float test

- Contrary to popular belief, the float test may not be very accurate as seeds may float because of a lack of vital embryos or nutrient stores, or they have air pockets inside, not affecting whether or not they strike.
- If the seed floats, it is deemed infertile.
- If it sinks, the seed is suitable for planting.



Old vs New Seed

- Most seed packets have expiry dates. Unfortunately, home-collected seeds do not.
- Unopened packets that have been harvested from up to a year should be fine.
- Opened packets that have been lying about since the dawning age in less than satisfactory conditions, however, might affect the strike ratio.



Old vs new seed experiment

- I found a packet of pansy seed that was said to be used by 1999.
- For my packet of in-date seed, I used pansy seed that was gathered last year.
- I conducted my experiment over 10 days.
- All of the fresh seeds germinated.
- Only 3 out of 25 of the 1999 seed germinated.
- Therefore, 18% of the old seed struck in comparison to the 100% of the fresh seed.

Soaking seeds

- All seeds need moisture.
- Seeds have a coating that protects the embryo inside until ideal conditions present themselves.
- Theoretically, presoaking should rise germination rates.
- Soak thick-skinned seed (eg, sweet pea) for 8-10 hours and plant immediately afterwards.



Soaking experiment

- In order to prove my belief that seeds don't need to be soaked in order to strike, I selected out 100 sweet pea seeds of similar size, shape and colour.
- I then took 50 of these and planted them straight into potting compost. The other 50, I soaked overnight, and planted them using the same compost.
- I left these seeds in an outdoor shed with light, at around 12 degrees Celsius (varies). I watered these seedlings twice after sowing.
- After 10 days, the unsoaked seeds had germination rate of 96% to the soaked seed's germination rate of 94%.
- All in all, both batches had an extremely high germination rate, even if the unsoaked seeds had a higher one.

Strike days


- Carnations - 2-3 weeks (approx)
- Pansy/violas - 1-3 weeks (approx)
- Asters - 10-20 days (approx)
- Sweet pea - 7-15 days (approx)
- Petunia - 5-15 days (approx)
- Geraniums - 7-10 days (approx)
- Marigold - 5-7 days (approx)



Evaluation of research


- I learned that although seeds need the same conditions in order to strike, it takes a different length of time for each variety to strike.
- I learned that soaking seeds may or may not affect the germination rate.
- I learned that old seed may not perform as well as new seed.
- I learned why infertile seeds float in water.
- If I could do anything differently, I would soak different varieties of seeds to see if that would affect my outcome.


INVESTIGATING SEED



SELL BY 31ST OCTOBER 1999 59p

PANSY
Swiss Giant Mixed
Height: 25cm (9in), Spread: 30cm (12in)
Sow indoors February to April, outdoors May to July
Flowers outdoors April to September.
1-YEAR PERENNIAL





Based on my findings, unopened packets that have been harvested from up to a year ago should be fine.

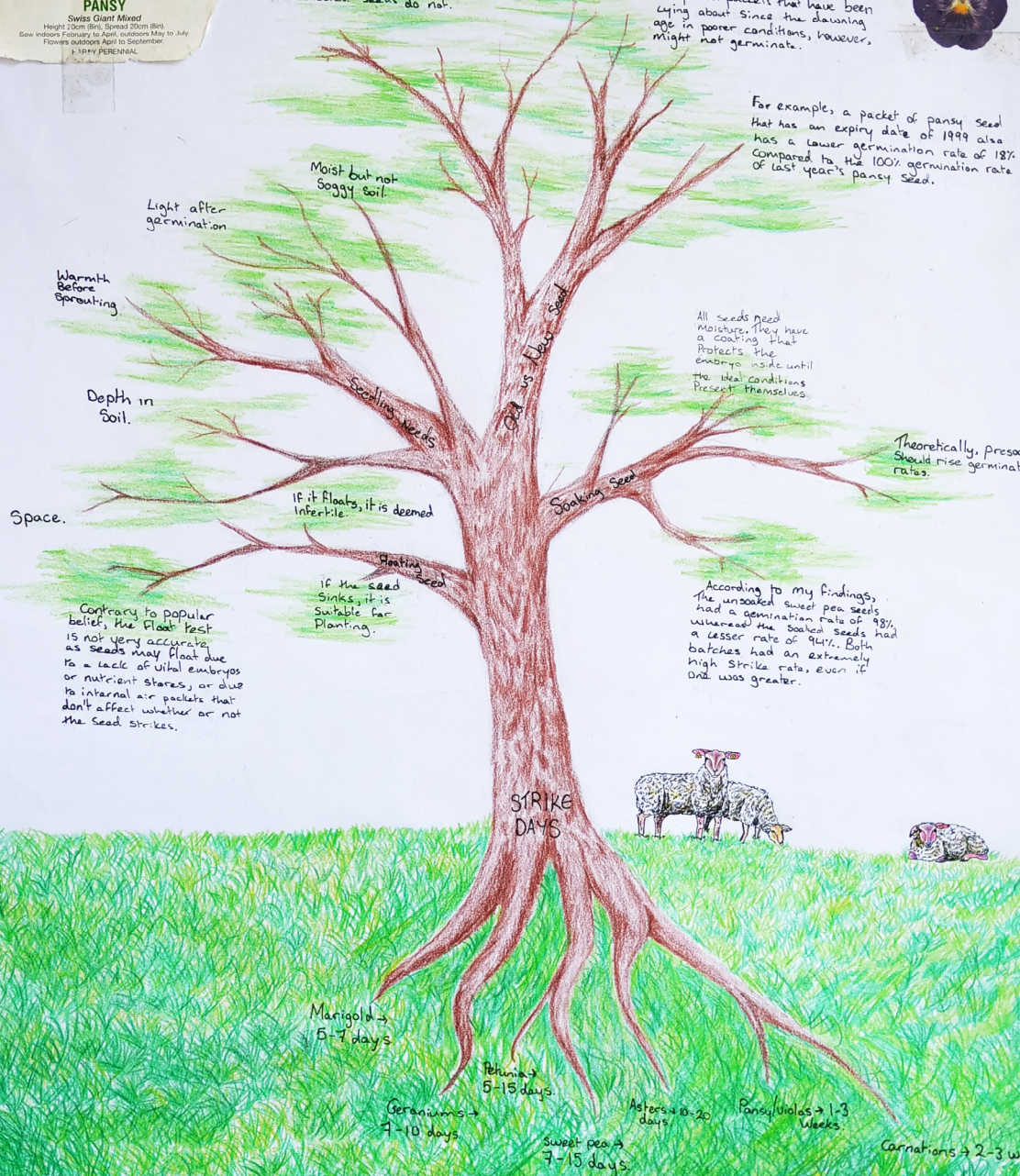
Opened packets that have been lying about since the dawnning age in poorer conditions, however, might not germinate.

For example, a packet of pansy seed that has an expiry date of 1999 also has a lower germination rate of 18% compared to the 100% germination rate of last year's pansy seed.

All seeds need moisture. They have a coating that protects the embryo inside until the ideal conditions present themselves.

Theoretically, presoaking should rise germination rates.

According to my findings, the unsoaked sweet pea seeds had a germination rate of 98%, whereas the soaked seeds had a lesser rate of 94%. Both batches had an extremely high strike rate, even if one was greater.



Strike Days

- Marigolds → 5-7 days
- Geraniums → 7-10 days
- Germination → 5-15 days
- Sweet pea → 7-15 days
- Asters → 10-20 days
- Pansy/Violets → 1-3 weeks
- Carnations → 2-3 weeks

Most seed packets have a use-by date. Unfortunately, hand-collected seeds do not.

Contrary to popular belief, the float test is not very accurate as seeds may float due to a lack of vital embryos or nutrient stores, or due to internal air pockets that don't affect whether or not the seed strikes.

Teacher Annotations

Exceptional research - both primary and secondary used. The primary research showed some really interesting findings and allowed for a comprehensive analysis.

Topic was critically developed and expanded on as the Classroom-Based Assessment progressed showing a higher level of thinking.

The chosen topic was related to the student's interests and the investigation into seeds was done to investigate a local issue to the student.

The overall presentation of the findings are exceptional and the medium which it was presented is excellent. The mind map not only showed the thinking relevant to the Classroom-Based Assessment, it was designed to reflect the topic.

Overall Judgement

Exceptional

