

## Sample Project

**Big Question:** How does vegetable pulp affect wheat grass seed germination?

### Research:

Optimal conditions for crop germination include temperature, moisture levels, sunlight, and accessible nitrogen and phosphorus.

*Soil Physical Requirements for Germination, Root Development, Plant Production and Survival*  
Peter Cornish, Agricultural Research Institute, Wagga Wagga, NSW 2650

Potassium phosphate, potassium nitrate, and calcium nitrate are recommended for seed germination.

- D.R. Hoagland, University of California, [http://www.nccc.ucla.edu/units/land\\_publications/getting.html](http://www.nccc.ucla.edu/units/land_publications/getting.html)

**Hypothesis:** If vegetable pulp contains nitrogen and phosphorus, then seeds planted in vegetable pulp will germinate more quickly than in regular soil.

**Variables:** Independent – planting condition  
Dependent – the time it takes each seed to germinate  
Controlled – amount of water, sunlight, and temperature

### Materials:

- 6 – 3 or 4 ounce cups
- 3 – ounces of potting soil
- 3 – ounces of vegetable pulp
- 1 – eye dropper for watering (other measurement containers are fine)
- 60 – carrot seeds
- 1 – pair of tweezers
- A convenient source of tapwater