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|  | * Materials: The different kinds of fertilizers are: Fertilizer #1: Miracid, soil acidifier, plant food with trace elements. 30-10-10 Procedure: Apply solution to root area, soaking the soil, every 14 days.  Fertilizer #2: KelpSeaLife .3-.25-.15 Procedure: Dilute KelpSeaLife in water and apply to soil within drip line every 3 to 6 weeks.  Fertilizer #3: Fish Emulsion 5-2-2 Procedure: Dilute concentrated liquid fertilizer. Water and allow absorption plants prior to fertilizer application. Feed monthly.  Fertilizer #4: Jobe's Plant food Spikes 13-4-5 Procedure: Insert newspikes every 60 days. Just push each spike into the soil around the plant, halfway between the plant stem and the edge of the pot, until the spike is just below the surface. The nutrients are gradually released to the plant roots, safely and continuously, every day. Water after inserting spikes.  Fertilizer #5: Super plush Lawn Food 26-3-5 Procedure: Spread fertilizer evenly onto the soil and water so that it would be able to dissolve. Water frequently.  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | * Miracid | * KelpSeaLife | * Fish Emulsion | * Jobe's Plant food Spikes | * Super plush Lawn food | | * Total Nitrogen (N) | * 30 | * 30 | * 5 | * 13 | * 26 | | * Ammoniacal Nitrogen | * 3 | * 0.024 | * 0.4 |  | * 10 | | * Nitrate Nitrogen |  |  |  | * 2 |  | | * Water soluble Organic Nitrogen |  | * 0.216 | * 3.61 | * 2 |  | | * Water insoluble Organic Nitrogen |  | * 0.06 | * 1 |  |  | | * Water insoluble Nitrogen |  |  |  | * 7 |  | | * Urea Nitrogen | * 27 |  |  | * 2 | * 16 | | * Available phosphate (P2O5) | * 10 | * 0.25 | * 2 | * 4 | * 3 | | * Soluble Potash (K2O) | * 10 | * 0.15 | * 2 | * 5 | * 5 | | * Boron (B) | * 0.02 |  |  |  |  | | * Copper (Cu) | * 0.07 |  |  |  |  | | * Chelated Copper | * 0.07 |  |  |  |  | | * Iron (Fe) | * 0.325 |  |  |  | * 1.5 | | * Chelated Iron | * 0.325 |  |  |  |  | | * Manganese (Mn) | * 0.05 |  |  |  | * 0.1 | | * Chelated Manganese | * 0.05 |  |  |  |  | | * Molybdenium (Mo) | * 0.0005 |  |  |  |  | | * Zinc (Zn) | * 0.07 |  |  |  | * 0.1 | | * Chelated Zinc | * 0.07 |  |  |  |  | | * Chlorine |  |  |  | * 0.2 |  | | * Sulfur |  |  |  |  | * 10 |  * The supersoil used is potting soil that contains all necessary nutrients needed to get plants off to a good start including iron for extra greening power. Ingredients include forest products, including firbark and redwood, Canadian sphagnum peatmoss and clean sand. The pH range is 5.5-6.5. Analysis: Total Nitrogen (N) .14% .01% Ammoniacal Nitrogen .01% Nitrate Nitrogen .01% Water Soluble Organic Nitrogen .11% Water Insoluble Organic Nitrogen Available Phosphoric acid (P2O5) .09% Soluble Potash (K2O) .02% Iron (Fe) .25%   The creek soil and creek water, were found at the shadow cliff creek, a place that is not very vegetated. The measured pH is approximately 7. * Procedure S For our experiment, we set up twenty different combinations of soil/water/fertilizer, to grow sweet peas plants. The combinations were the following (with pot 1, and 7-11, as control variables):  |  |  |  |  | | --- | --- | --- | --- | |  | * Soil | * Fertilizer | * Water | | * 1 | * SuperSoil | * no | * Tap water | | * 2 | * SuperSoil | * #1 | * Tap water | | * 3 | * SuperSoil | * #2 | * Tap water | | * 4 | * SuperSoil | * #3 | * Tap water | | * 5 | * SuperSoil | * #4 | * Tap water | | * 6 | * SuperSoil | * #5 | * Tap water | | * 7 | * SuperSoil | * no | * Creek water | | * 8 | * SuperSoil | * no | * Tap water | | * 9 | * SuperSoil | * no | * Tap water | | * 10 | * creek soil | * no | * Tap water | | * 11 | * other soil | * no | * Tap water | | * 12 | * creek soil | * #1 | * Tap water | | * 13 | * creek soil | * #2 | * Tap water | | * 14 | * creek soil | * #3 | * Tap water | | * 15 | * creek soil | * #4 | * Tap water | | * 16 | * creek soil | * #5 | * Tap water | | * 17 | * SuperSoil | * #1 | * Creek water | | * 18 | * SuperSoil | * #2 | * Creek water | | * 19 | * SuperSoil | * #3 | * Creek water | | * 20 | * SuperSoil | * #4 | * Creek water | | * 21 | * Supersoil | * #5 | * Creek water |  * S After planting all of the sweet peas plants, we observed the growth of each plant and measuring them after several different periods of time. S We then recorded all the measurements in a data table, S And graphed the results. S We then analyzed the results and drew conclusions on the effect of fertilizers and difference in soil, on the plant growth. * Data  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | * 1 | * 2 | * 3 | * 4 | * 5 | * 6 | * 7 | * 8 | * 9 | * 10 | * 11 | * 12 | * 13 | * 14 | * 15 | * 16 | * 17 | * 18 | * 19 | * 20 | * 21 | | * 36575 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | * 0 | | * 36590 | * 0 | * 2.5 | * 3 | * 0.5 | * 1.5 | * 0 | * 0 | * 0.5 | * 2 | * 0.5 | * 0 | * 0 | * 1 | * 0.25 | * 0 | * 0 | * 0 | * 0.5 | * 0 | * 0 | * 1.5 | | * 36594 | * 0 | * 3.5 | * 4 | * 1.75 | * 2.5 | * 0 | * 1 | * 1.75 | * 3.75 | * 2 | * 0 | * 0 | * 1 | * 0.5 | * 0 | * 0 | * 0.5 | * 0.5 | * 0 | * 0 | * 2.5 | | * 36600 | * 2.5 | * 6 | * 7 | * 4.25 | * 4.75 | * 0 | * 3 | * 5 | * 2.75 | * 2.5 | * 0 | * 2.5 | * 1.5 | * 2 | * 0 | * 2 | * 3.5 | * 0.7 | * 0 | * 0 | * 5 | | * 36605 | * 2.5 | * 7.5 | * 5.5 | * 6 | * 6 | * 0 | * 5 | * 5.5 | * 4 | * 3 | * 0 | * 4 | * 3.5 | * 3.5 | * 0 | * 3 | * 4 | * 1 | * 0 | * 0 | * 6 | | * 36609 | * 4 | * 9 | * 7 | * 7.5 | * 7 | * 0 | * 5.5 | * 6.5 | * 5 | * 3.75 | * 0 | * 5 | * 5 | * 4 | * 0 | * 4 | * 6 | * 2 | * 0 | * 0 | * 7 | | * 36612 | * 4 | * 9 | * 7.5 | * 7.5 | * 7.5 | * 0 | * 6 | * 7 | * 5 | * 4 | * 0 | * 6 | * 6 | * 6 | * 0 | * 4 | * 8 | * 3 | * 0 | * 0 | * 7.5 | | * 36613 | * 4.4 | * 9.1 | * 8 | * 7.6 | * 8 | * 0 | * 6.5 | * 7 | * 6 | * 4.1 | * 0 | * 6.2 | * 6.3 | * 6.1 | * 0 | * 4.5 | * 8.3 | * 4.5 | * 0 | * 0 | * 7.8 | | * leaf color | * dark green | * dark green | * dark green | * dark green | * dark green |  | * dark green | * dark green | * dark green | * light green |  | * light green | * dark green | * dark green |  | * dark green | * light green | * dark green |  |  | * dark green | | * leaf size | * small | * large | * medium | * small | * small |  | * small | * small | * medium | * medium |  | * small | * small | * medium |  | * small | * small | * small |  |  | * large | | |
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