

## Erasmus+ experiment: How food plants react to stress factors -time laps video

**Materials:** Soil, food plant seeds, boxes, aquarium, plant light, water, soap, salt, scissors, mixing bowls/bottles, measuring equipment, labelling tape, marker pen, iPad with time laps function.

We decided to make an experiment about plants and how they get affected by different things that they can get exposed to. We also wanted to see if they could recover. The things we were going to expose the plants to were salt, soap and cutting. Plants can get exposed to salt when roads are being anti-ice salted. They can get exposed to soap water when people for example wash their cars and let the soap water flood everywhere. When the sides of the roads get trimmed, the grass that grows there obviously get cut off. Animals may graze on food plants.

Our **hypothesis** was that the grass watered with soap water would wither pretty fast, but not as fast as the grass watered with the salt mixture would. The grass that would get trimmed would grow back, but not as fast as it normally would.

After we made our hypothesis we got started with preparing everything for the experiment.

### **Step 1.** Preparing all the boxes.

Start with putting a layer of soil in the box. The layer should be about 4cm thick or half the box. Then we spread out the oats evenly on the soil, and after that we also spread the mixture of seeds on the soil. After we spread them out we covered them with a thin layer of soil. We then sprayed them with water so everything was moist. We made four boxes with soil and seeds. One for soap water, one for salt, one for cutting and one that we could have as a control.

### **Step 2.** Letting the grass grow

We put the boxes in an aquarium, and then sprayed the walls with water so everything would be nice and moist. Then we let the grass grow for a week. We also sprayed the walls and grass with water every three days.

### Step 3. Exposing the grass to different things

After the grass had grown for eight days we decided to start watering it with water mixed with salt or soap, and to cut the grass in one of the boxes.

We mixed 10g of salt with 200 ml of water, and then we also mixed 6ml of soap with 200ml of water. Every three days we watered one of the boxes with the salt and water mixture and one of the boxes with the soap and water mixture.

Every three days we also cut the grass in one of the boxes. We cut the grass the same length as the box' edges. Which means that the grass left was about 5cm.

We watered the control box every three days with 200 ml of water.

Then we continued to do this for 14 days. We filmed the experiment with an iPad with the time laps mode. The lights were on day and night.

### Results

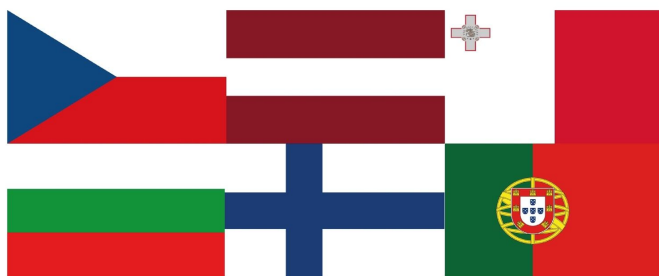
The box watered with soap water withered the fastest. The box watered with salt water also started to wither, but not as fast as the box with soap water. The box where we trimmed the grass did the best. It didn't wither at all, and it continued to grow. The grass in the control box also started to wither, but it took a long time.

### Afterthoughts

We probably should have watered the grass in the control box more. That's probably one of the reasons why it started to wither at the end.



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