Germinating *Arabidopsis lyrata* and *A. arenosa* seeds and plant growth conditions

To avoid fungi or bacterial contamination when plating, seeds are first surface sterilized. Maximum 50 seeds are put in a 1.5 ml eppendorf tube and **firstly** 1 ml 70 % ethanol solution is added and incubated for 5 minutes. The tubes should be inverted several times to ensure that all seed get in contact with the liquid. The ethanol is carefully poured off and the **second** step of the protocol is to add 1 ml bleach solution (20 % Klorix in 0.1 % Tween20 and dd H2O), invert the tubes, incubated for 5 minutes and pour the solution off. **Third step**: 1 ml wash solution containing 0.001 % Tween20 and dd H2O is added and carefully poured off (optional: repeat wash step) before **finally** adding 1 ml 0.1 % agar to the seeds and pouring the seed solution onto plates with growth medium.

1 liter growth medium (MS) contains 4.3 g MS (Murashige & Skoog medium) from Duchefa Biochemies, 7.0 g sucrose and 10 g Bacto agar (Becton, Dickinson and Company) (Murashige et al. 1962). The solution is adjusted to pH 6.3 with potassium hydroxide (KOH) before adding agar. Finally the solution is autoclaved at 121 °C for 20 minutes.

Surface sterilized seeds plated on appropriate medium are incubated at 4 °C (in a dark fridge) for 2 weeks (stratification). The plates are then placed in a growth room/growth chamber with 20 °C, 8 hours darkness and 16 hours light (100 µE/m2s). After two to three weeks the seedlings are ready to be transferred to soil and further grown under the same light conditions and 18 °C. Be aware that some of the seeds may take long time (3-4 weeks) before germinating. If the plants are intended to flower for several weeks, and be kept for two or more seasons, I recommend transferring the seedlings to pots that are at least 10-11 cm in diameter.

When a proper rosette has formed, after approximately three weeks, the growth conditions must be changed to imitate winter conditions for 8 weeks. We have 8 °C, 14 hours dark, 10 hour light, and reduced light intensity.

When the growth conditions are changed back to summer conditions, 18 °C and 16 hours light, the plants will shoot and flower within the next few weeks.

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| Growth condition | Duration |
| Seeds on MS plates in fridge 4 °C | 2 weeks |
| Seeds on MS plates in growth chamber 20 °C, 16 hours light | 2-3 weeks or more |
| Seedlings on soil 18 °C, 16 hours light | Approximately 3 weeks |
| Seedlings on soil 8 °C (or less if possible), 10 hours light. “Winter 0” | 8 weeks |
| Seedlings on soil 18 °C, 16 hours light | Maximum around 2 months |
| Seedlings on soil 8 °C (or less if possible), 10 hours light. “Winter 1” | At least 8 weeks |
| Seedlings on soil 18 °C, 16 hours light | Depending on the condition of the plants |