

## Seed Germination, Seedling Emergence and Response to Herbicides of Papaver Species (Papaver rhoeas and P. dubium)

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**Abstract :** Weed management decisions for weed species can be derived from knowledge of seed germination biology. Experiments were conducted in laboratory and greenhouse to determine the effects of light, temperature, salt and water stress, seed burial depth on seed germination and seedling emergence of Papaver rhoeas and P.dubium and to assay the response of these species to commonly available POST herbicides. Germination of the Papaver seeds was influenced by the tested temperatures (day/night temperatures of 20 and 25 °C) and light. The concentrations of sodium chloride, ranging from 0 to 80 mM, influence germination of seeds. The osmotic potential required for 50% inhibition of maximum germination of P. rhoeas was -0.27 MPa and for P. dubium species was 0.25 MPa. Seedling emergence was greatest for the seeds placed at 1 cm and emergence declined with increased burial depth in the soil. No seedlings emerged from a burial depth of 6 cm. The herbicide 2,4-D at 400 g ai ha<sup>-1</sup> provided excellent control of both species when applied at the four-leaf and six-leaf stages. However, at the six-leaf stage, percent control was reduced. The information gained from this study could contribute to developing components of integrated weed management strategies for Papaver species.

**Keywords :** germination, papaver species, planting depth, POST herbicides

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