**Gel diffusion PME activity assay**

Estimation of PME activity by gel diffusion assay was adapted from Bethke et al.  Seedlings were then frozen in liquid nitrogen and subjected to protein extraction. Proteins were isolated in 50 mM Tris-HCl pH 7.5, 150 mM NaCl, 10 % glycerol, 5 mM dithiothreitol, 1 % protease inhibitor cocktail (Sigma-Aldrich), 2 mM Na2MoO4, 2.5 mM NaF, 1.5 mM activated Na3VO4, 1 mM phenylmethanesulfonyl fluoride, and 0.5% IGEPAL and concentration determined using Bio-Rad protein assay kit according to the manufacturer’s instructions. Sample protein concentration was equally diluted to 0.33 μg/μl. 20 ml of a gel containing 1.2 % agarose and 0.1 % esterified pectin from apple (Sigma, 93854) and 12.5 mM citric acid, 50 mM Na2HPO4 pH 7 was prepared in 120 mm square plates. Three millimetres holes were filled with 15 μl of protein extract. Plates were incubated for 16 h at 37 °C. Afterwards, the plates were briefly washed and stained with 0.05 % Ruthenium Red (Sigma, R2751) for 30 min. Residual dye was removed by washing. Plates were captured using a Cannon EOS 750D camera. Areas with higher staining intensity corresponding to de-esterified pectin were quantified using Fiji. Active PME units per μg of protein were calculated by using a standard curve generated with known amounts of commercial PME (Sigma, P5400).