



Seed priming with potassium nitrate reduced the emergence time of processing tomatoes

Seeds of processing tomato (variety UC 82 B) were primed in a solution of K_2HPO_4 and KNO_3 (-1,25 MPa) for 12 days at 15°C and air-dried afterwards. Seeds were sown in a farmer's field in Darlington Point, Australia, to evaluate under practical conditions the effect of seed priming on the emergence, growth, development and harvestable yield of processing tomatoes. An early season and a mid-season sowing were made in each of two growing seasons.

Processing tomato seed priming reduced growing degree days of air temperature above 10°C, required for 80% emergence, by about 35% from each sowing (Table 1). Primed seedlings emerged 4 to 5 days earlier than unprimed in the early sowings and 1 to 2 days in the later sowings. Seed priming did not result in larger plants; unprimed plants reached the same size at a later date. The earliness of the primed crops was maintained throughout the ontogeny, with no change in the final yield.

Table 1. Growing degree days of primed and unprimed seeds in two growing seasons.

Treatment	Sowing date			
	1983		1985	
	October 12	October 21	October 3	October 15
	Growing degree days to 80% emergence			
Primed	37	45	45	35
Unprimed	57	67	70	55
% reduction due to priming	35	33	36	36