



Foliar applied potassium nitrate is an effective bud break inductor for strawberry plants

A pot-experiment in soilless culture (perlite) was conducted with strawberry (

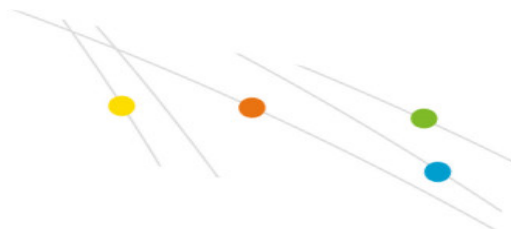
Fragaria ananassa

) cv. 'Selva' under greenhouse conditions in Iran.

This study was designed to evaluate if it was possible to break the dormancy of day-neutral strawberry plants with potassium nitrate or chilling. Treatments included: control plants, plants treated with 1,5% KNO₃ and plants treated with 3,0% KNO₃. All three treatments were combined with 4 chilling treatments: no chilling, 44, 74 and 114 degree-days of chilling.

During chilling plants were exposed to low temperatures (9-11°C) and short day-lengths (7-8 h), which led to cessation in growth of the plants. The highest leaf area, chlorophyll content and petiole length resulted from plants treated with 1,5% KNO₃ without chilling (Table 1). The results showed that potassium nitrate application alone at the proper time is inductive and has nutritional effects on growth and development of strawberry plants. However, according to the results of this research chilling only is not able to induce plant growth completely.

Table 1. Effects of potassium nitrate treatments on growth induction of strawberry plants without chilling.



Treatment	Leaf area (mm ²)	Chlorophyll content*	Petiole length (mm)
1,5% KNO ₃	248 a	3,52 a	68 a
3,0% KNO ₃	208 b	3,44 a	63 a
Control	182 c	3,04 b	54 b

*Expressed as mg/g leaf fresh weight.