

Development of Flower Pot Production by Using Dwarfing Effect of Salt

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Summary

By the Great East Japan Earthquake that occurred on March 11, 2011, agriculture in the Pacific Ocean coastal belt of Miyagi prefecture suffered a great deal of damage. So, we started the agriculture early recovery project. In this project, we cleared the salt tolerance of lily (*Lilium*) and stock (*Matthiola incana*) were higher than the other flowering plants and these flowering were normal in saline soil. The other side, growth retardant is used to improve flower pot quality. But its application is limited to main products. In this study, we investigated the effect of salt treatment on pot lily and stock to take the place of growth retardant application.

Longiflorum-Asiatic hybrid 'Ruby Magic', Asiatic hybrid 'Orange Cocotte' and 'Yellow Cocotte', Oriental hybrid 'Asuka' were tested on lily. NaCl treatments were two methods, dipping of whole pot in NaCl solution for 24hours and putting NaCl to the surface of the soil directly. Uniconazole P was used as the growth retardant. Two type cultivars were tested on stock, cut flower type 'Quartette Cherry' and dwarf type 'Pygmy Red'. 1% or 2% NaCl solution were treated to the pot soil as NaCl treatment. Daminozide was used as the growth retardant.

In each *Lilium* cultivar, higher concentration of NaCl was decreased plant height, leaf length and number of normal flower. Leaf length under NaCl treatments were shorter than that of growth retardant treatment. Therefore, NaCl treatment in this study did not improve the quality of pot lily. In each stock cultivar, flowering date was longer than that of control. Higher concentration of NaCl was decreased plant height. But plant height of the most decreased treatment in 'Quartette Cherry' was longer than that of control of 'Pygmy Red'. Therefore NaCl treatment in this study did not decrease plant height of cut flower type stock as well as dwarf type. On dwarf stock 'Pygmy Red', NaCl treatment did not affect leaf length, flower diameter, number of floret. Summarizing the above, 1 to 2% NaCl solution treatment to the pot soil will be useful for the production of pot dwarf stock to take the place of growth retardant application.