Sunday, September 25, 2011
12:30–1:15 pm **Kona Ballroom**

Floriculture 1

(001) Effect of GA_3 and Ethephon on Stamen Development of *Rhododendron delavayi* Franch

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To extend the bloom duration, plant growth regulator, GA_3, ethephon, 2,4-D and daminozide, had been sprayed on the wild populations of *R. delavayi*. The time of flowering duration was recorded after spraying in our preliminary experiments and the results indicated the extension of bloom time. In order to better understand the effect of GA_3 and ethephon with mixture of 2,4-D and daminozide on the florescence, the stamen development was observed using the transmission electron microscope after spraying GA_3 and ethephon. The results indicated that 100 mg/kg and 200 mg/kg GA_3 could promote stamen development and the lower concentration was better than that of the higher concentration. The anther development was full and surface structure expanded. A lot of pollen grains were found in the pollen sack. Pollen sack closed and no pollen grain had been seen under 100 mg/kg GA_3 mixed with the 50 mg/kg, 100 mg/kg, 200 mg/kg daminozide respectively. Anther development was not full and showed surface sunken. This inhibiting effect was enhanced as the increase of daminozide and 2,4-D. Spraying 100 mg/kg GA3 mixed the 50 mg/kg, 100 mg/kg, 200 mg/kg 2,4-D respectively, the development of the pollen was decreased with the increase of 2,4-D. At the same time, pollen sack was closed and no pollen grain was observed. Ethephon inhibited the development of stamen with the increase of ethephon concentration. The pollen sack was open and the pollen grain was visible when the wild population *R. delavayi* were sprayed with 200 mg/kg ethephon. The pollen sack was closed under the 400 mg/kg ethephon. When 500 mg/kg ethephon mixed the 50 mg/kg, 100 mg/kg, 200 mg/kg 2,4-D respectively, the pollen development declined as the increase of 2,4-D. When 500 mg/kg ethephon mixed the 50 mg/kg, 100 mg/kg, 200 mg/kg daminozide respectively, the pollen development increased with the increase of daminozide. Growth regulators did affact the stamen development and the combinations of grwoth regulators might positively or negatively impacted anther development.

Specified Source(s) of Funding: Science and Technological Project of Guizhou Province

(002) Study on Flowering Period of Potted Mini *Phalaenopsis* According to the Watering Methods in Indoor Environment

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Sphagnum moss used primarily as *Phalaenopsis* planting medium has the following characteristics : it takes a lot of time to absorb enough water when it is dry. Usually overhead watering can cause lots of water loss. In addition, put the pot in a water bucket can lead to waterborne infection.To solve these problems, and find easy way to assess the water management of *Phalaenopsis*, percentage of fresh flowers according to four kinds watering-methods which were No watering, Every week watering, Wick watering (which water was supplied after confirming the dried sphagnum moss, and the remaining water was discarded after the moss absorbed enough water), and Humidity supply (which supplied humidity only with filled water up to under media, but the water wasn't reached to media) was investigated. During 10 weeks, daytime environment (07:00~19:00) was investigated as 989.1 Lux (light intensity), 23.4 °C (temperature), and 46.6% (Relative humidity) respectively. Percentage of fresh flowers treated with Humidity supply decreased rapidly until 3rd week. It showed 40% from 3rd to 6th week and was reduced to less than 10% at 8th week. Percentage of fresh flowers treated with No watering showed more than 50% until 7th week and lost ornamental value at 8th week. Percentage of fresh flowers treated with Wick watering and Every week watering maintained ornamental value more than 70% until 10th week.

Specified Source(s) of Funding: National Institute of Horticultural and Herbal Science, Rural Development Adminstration, Korea