Study of Using Leaf Nutritional Diagnosis on Valencia Orange Fertilizer Application

Moa-Shen Chang and Tai-Chun Chou[1]

Key words: Valencia orange, Leaf nutritional concentration, Fruit quality, Nitrogen, Potassium

SUMMARY

This trial is conducted in Kuan-Shan (schist alluvial and gravel sandysoil) and Chen-Kung 1989 for studing the valenciaorange fertilizer application by leaf nutritional diagnoses. There were 6 treatments as thefollowing: 1. N and P fertilization by diagnoses as check. 2. N reduced 40%. 3. N strengthened 40%. 4. K reduced 40%. 5. K strengthened 40%. 6. as the first treatment but fertilization were 40 cm depth below soil surface. All ofthe 6 treatments were under a 4 replicated random complete block design. Both Kuan-Shan or Chen- Kung showed fruit yields bibearing and the soil fertility in Chen- Kung is higher than that of Kuan-Shan though the yield of Chen-Kung was just half compared with Kuan-Shan.

Fruit yields in 2 sites were decreased under high leaf N.P.K. contents in 1987. Nitrogen application by +40% or -40% treatment wereincreased by 14% or decreased 5% yield than that of check in Chen-Kung but all decreased by 26 or 29% yield in Kuan-Shen 1988.

Potassium application by +40% or -40% treatment were increased by 49 or 46% in Chen-Kung and 5 or 20% in Kuan- Shan thanthat of check.

1.Assistant agri-chemist and assistant in Taitung DAIS.

Fruit yield was increased as potassium application increased in 1988. For example, potassium application by +40% or -40% treatment were all increasedby 26 or 13% in Chen- Kung and 18% increased or only 3% decreased in Kuan-Shan than that of check.

Fruit yield gained the highest from diagnoses treatment in 1989, as the potassium application by +40% or -40% treatment were all decreased by 38 or 30% in Chen-Kung and 20 or 32% in Kuan-Shan.

Deep application of fertilizer showed decreasing in fruit yield by 37%(Chen-Kung), 6%(Kuan-Shan) in 1988, though increasing in fruit yield by 10% in Chen-kung but still decreasing by 46% in Kuan-Shan during 1989. Fruit quality was not being affected by those treatments.