

ของจำนวนดอกต่อต้น และจำนวนกลีบต่อดอก พบว่า การปลูกกุหลาบพันธุ์ La Perla ร่วมกับการให้ปุ๋ยสูตร 1 ให้จำนวนดอกต่อต้น และจำนวนกลีบต่อดอกมากที่สุด

**คำสำคัญ:** ระบบการจัดการ โรงเรือน กุหลาบ สูตรปุ๋ย

## Abstract

Study the greenhouse and management system suitable for rose was carried out in 2 experiments as follows:

**Experiment 1:** Study on greenhouses management system suitable for rose were operated in Royal Agricultural Station Inthanon, Chomthong, Chiang Mai during the period from August – December 2017. The varieties of rose investigated in this study including; Royal Baccara and Happy Day which were evaluated in supplemental lighting at two different levels (LED Grow light 12 and 45 watt) compare with sunshine combined with two fertilizers formulation (formula 1 (Stock A :  $\text{NH}_4\text{H}_2\text{PO}_4$  9.6 kg,  $\text{KNO}_3$  6.6 kg,  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$  4.6 kg and Unilate 500 g Stock B :  $\text{Ca}(\text{NO}_3)_2\text{H}_2\text{O}$  15.4 kg and  $\text{KNO}_3$  6.6 kg) and formula 2 (Stock A :  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$  4.6 kg and Unilate 500 g Stock B :  $\text{Ca}(\text{NO}_3)_2\text{H}_2\text{O}$  15.4 kg). Water samples were analyzed pH and EC. The result showed that pH were moderate (7.3) and electrical conductivity (EC) 0.2 mS/cm. Soil samples were collected to analyze soil properties such as pH, OM, N, P and K. The result showed that pH acidic too high (4.71-4.94), organic matter (OM) were very high (7.59-11.46 %), Nitrogen (Total N), Phosphorus (Available-P) and Potassium exchangeable (Exch-K) were very high (0.35-0.52 %, 152.16-160.03 mg/kg and 148.10-153.11 mg/kg). At 20 weeks after treatment, the results showed that Royal Baccara + LED Grow Light 12 W + fertilizer formulation 1 gave the most number of the numbers of branches (5.93 branches per plan), the numbers of flower (6.06 flower per plant), vase life (8.00 days) and yield of rose (9.71 flowers/m<sup>2</sup>/month). However, it was found that the growth and quality of flowers were not significant different.

**Experiment 2:** The study was to examine the fertilizer formulation suitable for growth and quality of roses. Plants were planted in substrates (rice husk and coconut dust) by drip system. Two varieties of roses i.e., Royal Baccara and La Pela combined with two fertilizers formulation (formula 1 (Stock A :  $\text{NH}_4\text{H}_2\text{PO}_4$  9.6 kg,  $\text{KNO}_3$  6.6 kg,  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$  4.6 kg and Unilate 500 g Stock B :  $\text{Ca}(\text{NO}_3)_2\text{H}_2\text{O}$  15.4 kg and  $\text{KNO}_3$  6.6 kg) and formula 2 (Stock A :  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$  4.6 kg and Unilate 500 g Stock B :  $\text{Ca}(\text{NO}_3)_2\text{H}_2\text{O}$  15.4 kg)) were evaluated during April-July 2017 at Royal Agricultural Station Angkhang, Fang, Chiang Mai. Water samples were analyzed pH and EC. The result showed that

pH were moderate (7.2) and electrical conductivity (EC) 0.11 mS/cm. Soil samples were collected to analyze soil properties such as pH, OM, N, P and K. The result showed that pH acidic too high (5.39), organic matter (OM) were very high (13.23 %), Nitrogen (Total N), Phosphorus (Available-P) and Potassium exchangeable (Exch-K) were very high (0.58 %, 349.98 mg/kg and 1,940.33 mg/kg). At 16 weeks after treatment, the results showed that growth of roses in term of plant height, the number of branches/plant, plant width, number of flower/plant and number of petals were not significant different between treatments. However, it was found that La Perla combined with fertilizer formulation 1 gave the most number of flower/plant and number of petals.

**Keywords:** management system, greenhouse, rose, fertilizer formulation

