

Abstract

The purposes of this research major are to 1) investigate the growth rate of oil palm in 6 different varieties, namely Suratthani 1, Suratthani 2, Suratthani3, Paramount Oil Palm Complex, Pao-Rong Oil Palm and Univanichgrew in abandoned paddy soil and 2) monitor the soil fertility of abandoned paddy soil after using 3 different soil amendments, i.e. farm manure (25 kg/tree/yr), farm manure (12.5 kg/tree/yr) with chemical fertilizer(90 g/tree/yr) and chemical fertilizer (180 g/tree/yr). The growth parameters which were investigated in this research comprised of the height, canopy, number of leaves, thickness of 9th leave, width and length of 9th leave and trunk size. Soil fertility parameters monitored in this research are Nitrogen, Phosphorus and Potassium.

After investigation the growth of oil palm after grew for 24 months, the results showed not significantly different in all varieties for the height, canopy, number of leaves, the width and length of 9th leave and the thickness of 9th leave. The investigation found the highest and the most thick of 9th leave in Suratthani 1, the widest canopy found in Univanich, Suratthani 3 has the highest number of leaves, whereas the widest of 9th leave found in Pao-Rong Oil Palm and the longest of 9th leave found inSuratthani 2. However, the trunk size has significantly different as Suratthani 1 has the biggest trunk size comparing to other varieties.

Upper (0-15 cm.) and lower (15-30 cm.) soil samples were collected and analyzed after use soil mentioned soil amendment for 3 and 7 month. The analytical results show not significantly different between all treatment in Nitrogen after 3 and 7 month. The highest concentration of Phosphorus was found in treatment using only chemical fertilizer in both 3 and 7 month but Potassium concentration was found highest in treatment using only farm manure.