

# Effect of plant spacing and harvesting age on growth, biomass and oil yield of rose-scented geranium (Pelargonium graveolens L. Herit)

Haileslassie Gebremeskle



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Master's Thesis from the year 2015 in the subject Agrarian Studies, grade: excellent, , course: Horticuture -Agricultue, language: English, comment: Rose-scented geranium (Pelargonium graveolense L.Herit) is an important high value aromatic shrub of the Geraniaceae family. It is mostly grown for its aromatic leaves that yields an essential oil hydro-distillation. The essential oil is mostly used in soaps, perfumery, cosmetic industries, flavour and fragrance, farmaceutical industries, aromatheraphy, flavourig agent in major food categories, alcoholic and soft drinks. Furthermore, the leaves are also important in herbal tea preparations., abstract: In order to investigate the effect of plant spacing and harvesting age on growth, biomass and oil yield of rose-scented geranium; a study was carried out at the research field of Wondo Genet Agricultural Research Center in the 2013/14 cropping season. The study was a 4 x 5 factorial combination based on randomized complete block design (RCBD) with three replications. The experiment was consisted of four levels of plant spacing (30 x 30, 30 x 40, 30 x 50 and 30 x 60 cm, which result in 111111, 83333, 66666 and 55555 plants/ha, respectively) and five levels of harvesting age (90, 105, 120, 135 and 150 days after transplanting (DAT)). Main effects of plant spacing and harvesting age significantly influenced plant height, number of internodes, internodes length, leaf area and dry leaf weight/plant. While interaction effect of the two factors significantly influenced number of branches/plant, number of leaves/plant, leaf area index, fresh leaf weight/plant, aboveground biomass/ha, fresh leaf yield/ha, dry leaf yield/ha, dry stem yield/ha, harvest index, essential oil content and essential oil yield/ha. The finding revealed that higher number of branches and leaves were recorded at 30 x 60 cm spacing combined with 90 and 135 DAT and higher leaf area, dry leaf weight and fresh leaf weight were recorded at 30 x 60 cm along with

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