

# Package of Practices of Geranium

**Botanical Name :** *Pelagonium graveolens*

**Family :** Geraniaceae

**Common Name :** Rose geranium

**Main Chemicals Constituent :** Geraniol and 1 - Citronellol

**Varieties :** Bourbon/Reunion type, equally rich in both geraniol and citronellol.

**Soil and Climate :** Geranium is a shallow rooted crop and thus requires a well drained porous soil. The crop is found to perform well in red lateritic soils with a pH ranging from 5 - 7.5, though a calcium rich porous soil is the best. It grows in temperate, subtropical and tropical climates at various altitudes ranging



**Geranium**

from 1000 to 2200 m but thrives best in temperate to subtropical climates with a temperature ranging from 16°C to 30°C. However, temperatures below 3°C will kill the plant. Warm winters coupled with mild summer temperatures and, well-distributed annual rainfall ranging from 100 - 150 cm is ideal. However, heavy rainfall results in water-logging, causes root-rot and stunted growth.

**Planting time :** October - November in subtropical areas and mid February to March in temperate areas.

**Preparation of land :** Before planting, the land should be properly prepared by ploughing and brought to a fine tilt. When planted in plain land, raise bed can be made to prevent water logging during monsoon.



**Land preparation**

**Manuring :** Prior to transplanting of the rooted cuttings

to field, FYM (Farm Yard Manure)/Vermicompost in the ratio of 4:1 (Soil: Compost) can be applied. Application of bio inoculum @ 500 litres per hectare of plantation is beneficial to enhance the growth of the crop.

**Propagating** Geranium is propagated vegetatively through herbaceous cuttings having at least 1 - 2 buds. Rooting can be done in pots, nursery beds and directly in the field. Nursery should be raised during October to February. Cutting should be done just below a node of young tender shoots. Cuttings should be just about 5 - 10 cm in height with a 0.6 - 0.8 mm in diameter having a well-developed terminal bud. Watering should be done before planting the cuttings either in pots/polybags/directly in the field. During harsh winter season when temperature reaches below 3°C it is necessary to trim all the leaves leaving only naked plant to avoid shock and transpiration. By doing so the plants can be saved for the next planting season.



**Fresh cutting**

**Method :** Direct planting of fresh cutting should be avoided during winter when soil temperature is very low. While planting, care should be taken that the soil cover should be just above the first node of the young shoot and then press the soil firmly near the base of the cutting so that it is not loose. The cutting should not be planted too deep into the soil as this could lead to stem rot. The planted cuttings should be kept in shade and direct exposure to sunlight should be avoided for about 3 - 5 days. Rooting will start after 14 days and will be ready for transplantation within 30 - 35 days. After making the Ridges and furrows, rooted cuttings of 30 - 35 days of growth having 3 - 4 buds should be planted in field with 30 × 30 cm plant to plant spacing during the months of March - May or September - October.



**Geranium nursery**

**Irrigation :** Geranium is usually grown as a rain fed crop. Irrigation during dry periods is mandatory to increase the yield.

**Pruning :** Pruning of the bushes is necessary when the bush shows signs of decline. The branches are cut back leaving 15 - 20 cm once in a year i.e. in the month of January.



**Harvest :** Oil concentration in Geranium is mainly present on the green parts and absent on other parts of the crop. Young leaves contribute most oil. Harvesting of tender branches is recommended for production of quality oil. Normally, after 100 - 129 days of transplanting; sign of maturity-brittle leaves, conversion of strong



**Geranium plantation**

lemon odour into faint rosy aroma, appearance of violet flowers is well reflected, but it would be better to confirm it by distilling 100g sample for quality evaluation. Harvesting is done in the morning after sunrise. Leaving small shoots intact for second crop, green portions of the plant (15 - 20 cm from the top) should be harvested with sharp sickles. Second harvesting can be done after 40 - 45 days of 1st harvest. Irrigation should be given immediately after harvesting.

**Yield :** With good soil and better management, a yield of 20 - 25 tons of fresh herbs is obtained from 1 ha area. The herb is distilled fresh and 0.1% oil on commercial scale is obtained from the herb. Second harvest of 5 - 10 tons of fresh herb is also available. Thus, a total of 30 - 35 kg oil/ha is obtained.

**Uses :** Geranium oil is mainly used in perfumery and cosmetic industries. It is also used as agrochemicals against insect pests, antimicrobial and antistress oil.

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