

GERANIUM – AN INDUSTRIAL PROSPECT

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The aromatic plant, (*Pelargonium graveolens*), popularly known as Geranium is already cultivated in several developing countries for its essential oils. It generates a rose-scented oil which has a consistently high demand. It is used in the Flavour and fragrance industry for cosmetic products and toiletries as well as for confectioneries. Citronellol and Geraniol are the major constituents of the essential oil of geranium and is responsible for the aroma which is reminiscent of fresh roses. The value of the oil in commerce is dependent on the relative amounts of these two compounds present in the oil.

In India it is a well established crop and several Institutions such as the Central Institute of Medicinal and Aromatic Plants have conducted valuable research on its agrotechnology as well as the study of the compositional variations of the oil. In Madagascar too such research is ongoing, and the oil is exported to industrial companies.



It is an ideal crop for small-holder farmers, provided a central distillation station with authentic technological features is available in close proximity to the site of the plantations. The oil is of high value.

The essential oil is obtained by the steam-distillation of the leaves and the aerial parts of the plant which can be periodically harvested. Field located stills such as is used in Sri Lanka for the distillation of Cinnamon leaf and Citronella can be utilized for this crop as well. Both the yield of oil as well as the quality of the oil is crucial for the economic viability of the crop as an industrial prospect.

Research conducted recently at the CIMAP (Lucknow), a unique institution dedicated to research in this area, combined agro-technology with the right genotype selection, chemical process technology for essential oils, and this has

enabled the institution to develop parameters for viable production. They have successfully, established a chain from plant material to marketable products, in other words from farm-gate to market linkage. Research is the key to the success of the industrial venture. CIMAP has shown how research with a multi-disciplinary approach can get translated to successful business, enhanced incomes to farmers, employment opportunities, and entrepreneurship. It has also led to enhanced rural upliftment. It has borne out the significance of mission oriented R&D. This pathway must be commended to the local scenario where usually there is only hit-and-miss efforts sans any research or at best some remote research carried out in an institution which provides it as a paid service without dedicated effort. Entrepreneurs in Sri Lanka are apt to undervalue or ignore the role of research and the resulting endeavour is a failure. We are often unable to compete in the international markets. The cultivation of geranium commends itself to the local scenario for several very good reasons. The crop will grow well here, as, experiments conducted in the 1970's showed. The technologies are also available here and there is a growing essential oils industry. There are companies that can provide the technological inputs and have the marketing expertise. Geranium will indeed grow in local conditions, but where best, how best, must be determined by research with chemistry, biology, and agro-technology applied in goal oriented fashion. This has been carried out for example in Madagascar, where now, Geranium oil is distilled on a field scale and exported.



Photo : Wijesekera

Field Distillation of Oil of Geranium in Madagascar