

The associates are committed to the training, upliftment, and the empowering of rural communities through a “trade-not-aid” policy with emphasis on ensuring that environmental awareness and protection is foremost in all the foundation projects.

Agro Forest Bio Energy Association is spearheading development into training rural communities in sustainable development especially with regard to renewables and conservation. It is currently involved with various research and development projects.

The team will work closely with all relative Government departments such as Minerals and Energy, Agriculture, and Forestry to empower rural developing farmers.

Essential Oils: Are They Worth Considering as an Alternative Crop?®

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The South Africa (SA) essential oil industry, in 2004, is poised to become a significant player in the international essential oil market.

Its beginnings can be traced back to the 1950 when the CSIR archives show numerous requests for assistance and some early research. The citrus and eucalyptus essential-oil productions developed first, largely due to various pioneers but it was not until the 1990s that the SA farming community showed significant interest in essential-oil farming. This revival can be attributed to many political, economic, market, and technical factors. The intensive research programme of the CSIR into the scientific and market development needs of a SA essential-oil industry played a major role, supported by Biosys Ltd., United Kingdom, now the major share holder of Biosys Plant Extracts (Pty) Ltd.

Well established commercial farmers can, in 2004, annually produce and sell about R10 million worth of essential oils and the potential for growth is exciting.

To establish a successful essential oil industry, be it a single farm production or on a nation level, requires investment into developing three areas:

- Chemical and engineering technologies.
- International market development.
- Research into agronomic practices.

This presentation will focus mainly on the latter two, although various parties have paid considerable attention to all three while developing the SA industry.

Focusing on the market issues firstly.

The market can be segmented into at least five cost categories of increasing value and concomitant increasing difficulty for a new producer to achieve market penetration.

To define the world market for essential oils is very difficult for numerous reasons. However, reliable sources value the world market for products using essential oil at U.S.A. \$300 billion p.a. and for essential oils themselves at \$10–20 billion. A further distinction for “fine” essential oils (annual production world wide of 100 tons to 50 kg) is quantified at \$3–5 billion. Even further refinement identifies the highest quality market niche, including organically certified oils, at about \$250 million.

It is into this market segment that the recently established farm producers and Biosys are looking to sell.

Annual world production of essential oils is estimated to be 60,000 tons. Ninety percent of this figure comprises 15 bulk oils, e.g., mint and citrus. The remaining 10% are the fine essential oils comprising 300 products but 75% of this category is from 20 different oils only.

The major exports of oils are still the European Union (E.U.) and the United States of America. A number of developing countries continue to establish themselves. The major importers are again the U.S.A. and E.U.

The SA market for bulk production and usage, as measured by Customs and Excise information, is small. Exports in 2002 totalled about R 140 million for mainly very specific low value oils. Imports totalled about R 58 million in the same year.

The opportunity for growth in the fine essential oil market is large. Using rose geranium as an example: Oil traded worldwide is produced from a hybrid of two SA *Pelargonium* species. The SA climate is ideally suited for this plant's oils production, yet even in 2002, the country did not export much more geranium oil than it imported and paid a higher price for it.

Essential oil production around the world can be divided into three categories: large producers of bulk oils, small cottage type industries, and new modern producers. Each type has defining characteristics and each type usually occurs in different areas of the world.

The SA industry, as it is emerging, has some elements of each type and has to identify how it is to compete. Usually competitiveness is achieved by price, reputation, or quality. As an emerging new producer, SA has to look for further unique advantages and these do exist, e.g., climatic diversity, the available scientific agricultural, transport and economic infrastructure, geographical position, and recent success in the niche markets described above.

This niche market has clearly understood characteristics, e.g., traceable production, reliable production at consistent quality and availability of organic oils. South Africa's competitiveness will come from continually developing solutions and services to address this market.

One of the key success factors in this niche market is to have reliable commercial farms fully integrated into the supply chain.

The characteristics of a successful essential oil farmer (key to SA continued competitiveness) are by now well understood.

Typically the best essential-oil farmer in SA is a large commercial farmer that produces essential oils as a diversification of the other farming activities (30%–50% of total farming operations).

They also recognise the value of a local marketing partner to position the oils with international end uses.

They understand oil composition varies from spring to autumn and know how this can be used to their advantage in the market.

All of this understanding on a specific farm comes from detailed viability studies on the farm prior to commercialisation. This study determines the economic potential of various crops on the farm and determines the best crop to commercialise.

Under ideal conditions, that the viability studies aim to determine, various essen-

tial oil crops can achieve annual per hectare incomes at R 25–R 40,000. The costs of production vary from farm to farm for various reasons. Net income can compare very favourably to the other crops, e.g., irrigated maize, lucerne, and tobacco.

Essential oil farming also offers other advantages not available from other crops, e.g., postharvest spoilage is not an issue, the crop has no value unprocessed, and transport costs are small.

Further growth will require continued scientific investigations into numerous areas, but most particularly agronomic research. We, as South Africans are however poised for success in the international essential oil market because our oils can and already do compete on the world stage.