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## Challenges of Propagating Medicinal Plants<sup>®</sup>

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### INTRODUCTION

Over 75% of the world's population relies on plant-based medicines for primary healthcare. Populations using pharmaceutical drugs obtain about 120 prescription drugs with origins from plants (Abelson, 1990). Used mostly by developing countries, 70%–90% of medicinal plants are still being harvested in the wild. If this trend continues, eventually these wild populations will no longer sustain the ever-increasing market demand. Examples of popular wild-harvested plants are *Achillea millefolium* (yarrow) and *Hypericum perforatum* (St. John's wort). Yarrow flowers are used in treating colds, fevers, Crohn's disease, and St. John's wort for patients with mild to moderate depression (Foster and Duke, 2005) These two species can easily be propagated from seed and stem cuttings to avoid over harvesting in the wild.

### SUSTAINABLE APPROACH

The production of medicinal plants is still at its infant stage worldwide and is considered a minor crop by growers. The predominant growers of medicinal plants are located in Europe, Canada, Asia, Africa, and the United States. The United States is gaining momentum with increased production of nontraditional crops such as mint and ginseng (Craker et al., 2003). In recent years, the pace of commercialization of traditional medicines has accelerated and caused a sharp increase in demand for plants in the local and world markets (Singh et al., 2007). Eventually, plant sources from the wild will be depleted and more sustainable methods must be implemented. Propagating medicinal species has been on the increase and positive benefits are assured standard quality of compounds and replacement of endangered plant populations (Purohit and Vyas, 2008).

### PROPAGATION OF MEDICINAL PLANTS

Propagating medicinal plants is on the rise due to the interest of people who want products of natural origin. The push for alternative medicines and the limiting use of pills is an indication of the current "green movement." The real indicator of this trend is the current buying of high-quality products from local markets. Small-scale cultivation, which requires low economic outputs, can be a response to non-existent or declining wild stocks, generating income, and supplying regional markets. Growing operations are increasingly a focus of medicinal plant propagation and introduction programs intended to encourage the use of traditional remedies for common ailments by making the plant sources more accessible to the public (Shippmann et al., 2002). Two approaches for growers of medicinal plants are field-grown plants and container-grown plants. Field plants are grown for specific compounds utilizing plant parts or whole plants. This is done on a commercial level that may require special equipment for propagation, planting, harvesting, and processing. Container-grown plants are more suitable for retail and wholesale operations. Most plants