

**Diosgenin and other Steroid Drug Precursors:** By L. V. ASOLKAR, Y. R. CHADHA and P. S. RAWAT. Publications and Information Directorate, CSIR, New Delhi 110012 (1979). 171 pp. +xii. £5.50 or US \$12.00.

The discovery by Marker in 1939 of high yields of diosgenin in wild Mexican *Dioscorea* species, and later a process for chemically transforming diosgenin to pregnanes and androstanes, marked the beginning of the rapid development of steroid drugs which now occupy important roles in population control and the treatment of many clinical disorders. Diosgenin remained the market leader of the many available steroid precursors until the mid-1970's when, as a result of political intervention into the marketplace and a rapid escalation of the price of diosgenin, the steroid industry re-examined sterols as precursors of steroid drugs and developed microbiological processes for the removal of their side chains. As a result, the soya bean sterols, stigmasterol and sitosterol, and cholesterol are now the most important starting materials for the steroid drugs.

The publication under review devotes most of its space to diosgenin: the sources from which it is derived; its extraction and the procedures used for its assay; its conversion to steroid drugs; and its production, requirements and trade are treated in separate chapters. One of the book's six chapters is devoted to other precursors: solasodine and hecogenin are dealt with in some detail in this chapter, and the conversion of the sterols and bile acids to steroid drugs are

described. Three appendices list the plant species reported to contain diosgenin, a glossary of botanical and agricultural terms, and the diosgenin extraction centres in India.

The book is aimed at the Indian market where diosgenin and solasodine are the major steroid precursors. As such it provides valuable information to the agronomist and farmer who wishes to become involved in the cultivation of steroid-producing plants, and to entrepreneurs considering the possible manufacture of precursors of steroid drugs. Recent work on the cultivation of *Dioscorea* and *Solanum* species in India is described and economic assessments of diosgenin and solasodine extraction from cultivated and wild collections of *Dioscorea* tubers and *Solanum khasianum* berries respectively are given.

Unfortunately, the price for diosgenin used in these calculations is US \$101 per kg at the current rate of exchange as compared with a price of US \$30 kg in the London market during 1979. Recalculation of the profitability of the cultivated tubers using the London market price for diosgenin would result in substantial losses for each of the species quoted if the diosgenin was exported from India.

I am certain that many people outside India will find this book to be a useful source of reference material in spite of the emphasis placed on diosgenin. The book is relatively free of typographical errors.

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