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A STUDY OF THE UTEROTONIC AND ANTI-IMPLANTATION ACTIVITIES  
OF SOME SELECTED PLANT EXTRACTS AND PRODUCTS

by

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## Summary

Sixty one plants reputed to have anti-fertility activity were tested on female Sprague-Dawley rats, in order to isolate active compounds with a potential for use in human fertility regulation. The experiments were carried out with crude plant extracts in the first instance. If any activity was present, the extracts were fractionated. Two bioassay methods were utilized in these investigations.

The extracts were assessed for possible abortifacient effects by an *in vitro* method of testing for uterotonic activity. In this method the isotonic contractions of the isolated uterine horn of the oestrogenised rat were observed in the presence of various plant extracts. A total of forty two extracts, one fraction and two pure compounds were tested in the *in vitro* system and thirty extracts gave positive results.

An *in vivo* method was utilized in order to determine any anti-implantation, early abortifacient and/or foetal resorption effects of these extracts. One hundred and thirty extracts as well as one hundred fractions and seven pure compounds were tested by the *in vivo* method. The rats were administered the extracts from day 1-10 post-coitally and

the anti-fertility effect was assessed on the sixteenth day at autopsy. Five plants, namely, *Calotropis gigantea*, *Calotropis procera*, *Plumeria rubra*, *Juniperus sabina* and *Jatropha curcas* were identified as highly promising leads from which anti-fertility compounds may be isolated.

Since several plant extracts resulted in a loss of appetite, the effect of a reduced feed intake on reproduction in laboratory animals was also investigated. The tests demonstrated the need to monitor the feed intake when using laboratory animals for anti-fertility tests.