

Preliminary studies of piper betel L. (Betelvine)

Piper betel L. (betelvine) belonging to family Piperaceae, is an economically important plant in Sri Lanka. The leaves of the plants are used for chewing and medicinal purposes and also as a cultural symbol. Sri Lankan betel industry has a long standing history but is currently facing a severe problem of depressed prices and restricted export market. Therefore, a study to enhance the commercial potential of betel is undertaken.

The essential oils of 24 samples of *Piper betel* collected from several areas in Sri Lanka were compared with the morphological characters. The constituents of the oils were identified by GC/MS and peak enhancement method. The volatile constituents of other parts of betel and changes with maturity were also determined.

The analyses revealed that safrol is the major component in common betel of Sri Lanka. Eugenol, chavibitol acetate, pyrocatecol diacetate and β -phellandrene are significant in betel oil. This chemical composition is similar to that of cultivar Deshawari found in

India. So far only two significantly different (chemically and morphologically) betel cultivars namely 'malabulath' and common betel were found in Sri Lanka though over twelve varieties and cultivars are described in literature. The major constituent of the essential oils of common betel is safrol but that of malabulath is unidentified. During the growth of leaves the essential oil content gradually decreased from 2.6% in young leaves to 1.4% in mature leaves. The amount of safrol, chavibetol acetate and allyl pyrocatechol diacetate gradually increased and the amount of β -phellandrene and eugenol decreased.