

Regular Article

Isolation and Identification of Crude Triacontanol from Rice Bran Wax

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Abstract

In present investigation crude triacontanol was isolated and identified from rice bran wax. Triacontanol was isolated by saponification and extraction method. The obtained mixture is crude Triacontanol. It was analyzed by Gas Chromatography (GC) and melting point method. Purity of triacontanol was 13.33%.

Key words: Triacontanol, rice, bran wax, soxhlet, saponification

Introduction

Triacontanol is plant growth stimulator which is also known as melissyl alcohol C₃₀H₆₂O. It is found in bees wax and plant cuticle especially in rice (*Oryza sativa*). Triacontanol is effective on biosynthesis of secondary metabolites and in plant triacontanol regulate physiological process and biochemical process. Crude triacontanol is a mixture of fatty alcohol derived from plant wax and bees wax 1-triacontanol was reported as a plant growth stimulator also showing moderate anti-inflammatory and antiviral effects. Crude triacontanol was obtained from Sugarcane (*Saccharum officinarum* L.) wax showing cholesterol lowering effects, demonstrated in different experimental models. Also a crude triacontanol obtained from beeswax, shown activity against gastric and duodenal ulcers as well as anti-inflammatory (McBride et al., 1987). Triacontanol is the Plant growth regulator or hormone which has long chain aliphatic alcohol (Reis et al., 1977). It is ecofriendly hence do not show any adverse effect. The use of this Hormone is the quickest and surest way of boosting crop production. It is known to enhance the photosynthetic activities of the plants. Rama Rao (2003) has studied the effect of three growth regulators on the growth and yield of green gram. Rice bran Wax has always been matter of interest because of its possible industrial application. Very good availability can be obtained at reasonable rates. The present papers describe the isolation of n-triacontanol from rice bran wax.

Material and Methods

Crude triacontanol was isolated by saponification and soxhlet extraction method. It was analyzed by GC and melting point.

Results

Crude triacontanol was isolated by saponification and soxhlet extraction and it was identified by comparing to standard sample i.e. 21.6% (Fig. 1). The obtained product was 13.3% pure and 25% yield was recorded. Thus it is concluded that crude triacontanol can be isolated by saponification and soxhlet extraction method.

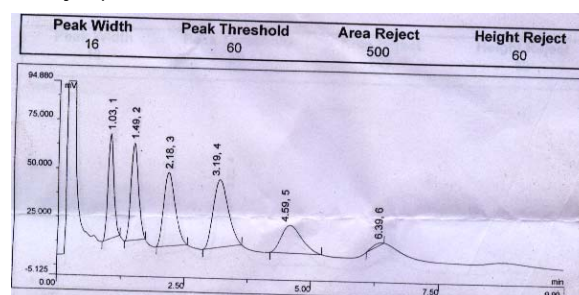


Fig. 1. GC of Sample

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