

PRELIMINARY INVESTIGATIONS ON THE CYANOGENIC
GLUCOSIDE AND GLUCOSIDASE OF RUBBER SEEDS

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Rubber (*Hevea brasiliensis*) seed is reported¹ to contain a cyanogenic glucoside viz. Linamarin². This glucoside is hydrolysed by the enzyme Linamarase which usually occurs with linamarin liberating hydrogen cyanide.

The possible liberation of hydrogen cyanide during processing and storage of seeds can pose toxicological problems. The cyanogenic glucoside can also impart toxicity to animal feed produced from seed.

In the preliminary studies carried out it was observed that total cyanide levels up to 6000 mg/kg (on moisture free basis) could be present in the kernels.

Studies on the glucosidase Linamarase revealed that enzyme levels are sufficiently high to effect complete hydrolysis of the glucoside in 2h. Hydrolysis was achieved, by incubation of ground kernel with water at room temperature. This high activity of the enzyme coupled with its stability at elevated temperatures (the Linamarase being rendered dormant when kernels are dried at 105°C to less than 5% moisture) indicates that the total cyanide content in the kernel though high will be amenable to detoxication when incubated in water as above. Therefore the utilization of this Rubber seed product as food or feed will not cause toxicological problems. However, the liberation of hydrogen cyanide during processing and storage of rubber seed not treated as above can be health hazard.

References

- Gortler, K (1912) Rec trav chim 31:264
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