

## **Cyanogens**

### Description

Cyanogens or cyanogenetic J-glycosides (Tacon, 1997) are not directly toxic, but when hydrolysed with an associated extracellular enzyme, they liberate hydrogen cyanide (HCN) and probably other carbonyl compounds that suppress natural respiration (Francis *et al.*, 2001). Furthermore, thiocyanate, a detoxication product of cyanide, acts as an antithyroid agent (Francis *et al.*, 2001).

### Occurrences

Cyanogens are found in many cereals, root tubers, legumes and oilseeds.

### Treatment

Cyanogens are generally heat-stable and sparingly soluble in water, but the associated enzymes are readily destroyed by heat (Tacon, 1997). Drying of cassava at 60° C has been reported to remove up to 90% of the HCN (Charavanapavan, 1944 – cited in Hossain & Jauncey, 1990). Soaking three days at 30° C and sun drying for another two days (Ng & Wee, 1989), or incubating at 30 °C for 18 hours followed by steam heat to evaporate HCN (Yamashita *et al.*, 2007) are efficient treatments. HCN content in linseed meal has been reduced by 34.4-53.1% with aqueous treatment (soaked in water at 25° C for 18h) (Hossain & Jauncey, 1990).