

# **Azadirachtin A Content of Neem Seed from Different Agro-Ecological Zones of Ghana. (A06-humpal143203-Oral)**

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## **Abstract:**

The effectiveness of neem-based insecticides depends on the Azadirachtin A (AzA) content of neem seed. This study evaluated the influence of broad climatic zones on AzA content to identify potential sources of raw material for extraction as a botanical insecticide to control cocoa capsids. The study also evaluated whether neem seeds collected from the ground were free enough of aflatoxins (an indicator of length of contact with the soil and poor storage conditions) to be of commercial interest for the export production of botanical pesticides and other natural products. Large samples of neem seeds (13 metric tons total) were gathered from three ecological zones of Ghana: Dodowa in the southern coastal savanna; Dedeso along the Volta River in the central forest savanna transition zone; and Wa in the northern savanna zone. Collection began in June and ended in September 2001, the main neem fruiting season. High Performance Liquid Chromatography (HPLC) analysis by a commercial laboratory showed that AZA varied from 5.033 mg/g for Dodowa through 4.517 for Dedeso to 3.016 mg/g for the Wa area. HPLC analysis indicated aflatoxin contents as high as 1.5 micrograms/kg for the northern site of Wa. The samples from central and southern Ghana had aflatoxin contents below 0.5 micrograms/kg. The moisture content of all samples averaged 5.4 percent. AzA content declined with declining rainfall from south to north, dropping below the commercial threshold of 4 mg/g in the north. Northern locations also had aflatoxin levels higher than allowed for neem product entry into the European Union.

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