Fertilizer Use on Sugar Crops

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World sugar production from sugarcane in the tropics and from sugar beets in temperate climates totaled 65,693,000 tons in 1965. Table 1 shows the geographic distribution of sugar production, with sugarcane producing 55 percent of the total.

Sugarcane had been grown for several centuries B.C., while sugar beets were first discovered in the 18th century. These crops have expanded to become two of the more important crops in the world. By 1890 beet sugar production exceeded that of cane, but in recent years, with increased yields, cane sugar has become a strong competitor. Cane sugar has supplied as much as 70 percent of the world’s sugar market. Mean yields in Java rose to 6.8 tons of sugar/acre, against 1.8 tons/acre for beets in Western Europe.

In the USA, sugarcane is grown in Hawaii, Louisiana, Mississippi and Florida, while sugar beets are grown in a large number of states, many in the West. Sugarcane gained importance during the early 1900’s by marked increase in yields through new varieties, fertilization, and better cultural practices. Sugar beets have regained competitive strength with complete mechanization. Beets were produced in the USA on 818,000 acres in 1946 and 957,000 acres in 1960. Average yields rose from 13.28 tons/acre in 1946 to 17.26 tons in 1960, an increase of 30 percent. Sugar production from beets in the same period increased from 1,568,000 tons of beet sugar in 1946 to 2,475,000 in 1960, an increase of 58 percent. New varieties, optimum fertilization, better control of pests and diseases and other management practices resulted in this fine record.

Fertilization of sugar crops is extremely important since profits for the grower and the processor depend not only on the quantity of cane or beets grown, but on the recoverable sugar. The processors, when they purchase cane or beets, usually insist on minimum rates of nitrogen fertilization, since “unused” nitrogen is known to be detrimental to sugar beet and sugarcane