



Agricultural Uses for Dow Chelating Agents

Dow chelating agents have achieved wide use in many areas of agriculture where control of metal ions is necessary and/or beneficial. Typical uses are discussed below.

Chelated Micronutrients

Metal chelates are important in agriculture because they supply micronutrients (trace metals such as iron, zinc, manganese, and copper), which are vital in the metabolism of both plants and animals. Plant problems previously ascribed to disease and drought are now recognized as possible symptoms of micronutrient deficiencies. Today these deficiencies are generally considered to be caused by:

- The use of higher analysis fertilizers containing fewer “impurities.” Soils that had been adequately

supplied with trace metals from these “impurities” have now become deficient.

- Intensified cropping practices which place a severe demand on the soil to supply micronutrients; to maintain high yields, supplementary addition of trace metals is now necessary.
- High phosphorous fertilization, which tends to tie up metals in the soil in a form unavailable to the plant.
- The leveling of marginal land for cultivation, which often exposes subsoils deficient in micronutrients.

To correct micronutrient deficiencies, chelated micronutrients have distinct value when incorporated into liquid fertilizers. Because of their increased solubility, these metal chelates are more readily utilized by the plant than are

the inorganic forms of metals. This is especially true in highly competitive ionic systems. As a result, less metal is required in the chelate form.

Herbicidal Formulations

EDTA is utilized to stabilize herbicide or other water-soluble or water-miscible herbicide formulations when they are formulated or mixed with hard water. The VERSENE™ EDTA Chelating Agent in such applications is normally employed as the salt.

Many of the animal and plant uses are regulated by federal agencies and by local bodies; care must be taken that applications conform with such regulations.

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