



KEY MICROBIAL ACTIONS

TRADITIONAL FERTILIZER

SUMAGROW®

Microbes perform key functions such as **Nitrogen Fixation** and **Phosphate Solubilization**.

Nitrogen in the air is not bio-available to plants.

Nitrogen and organic phosphates in the soil are converted by microbes into a form that plants can use.

Plants can't use organic phosphates in the soil.

Microbes act as **Nutrient Cyclers**, making soil nutrients more bio-available to the plants.

Microbes break down organic matter in the soil, freeing carbon and other key nutrients, returning them to biological circulation.

SumaGrow®'s **Liquid Humate** base serves to build soil organic matter and acts as a soil pH Buffer.

Soil with a pH lower than 6 is acidic. Microbe population and activity declines in low pH conditions.

Liquid humate base helps balance soil pH by neutralizing acids.

Acidic soil contains high levels of aluminum, which locks up phosphates so that plants can't use them.

Liquid humate base provides organic matter to microbes, replenishing nutrients in the soil with decomposition.

Microbes aerate the soil, resulting in better absorption, less runoff, and increased **Water Efficiency**.

ZOOM: NITROGEN FIXATION

ZOOM: NUTRIENT CYCLING

ZOOM: LOW MICROBE POPULATION

ZOOM: AERATED SOIL

