

Ammonium Sulphate (AS)

Properties

Ammonium sulphate fertilizer contains 21% nitrogen (N) in the form of ammonium (NH_4) and 24% of sulphur (S) in the form of sulphate (SO_4) that can be directly absorbed by plants. It is also referred to as “sugar fertilizer” by farmers since its crystal structure looks like sugar particles. The sulphur existing in the form of sulphate can completely meet the plants’ need. Since the nitrogen form in ammonium sulphate is ammonium (NH_4) as it is the case with all base fertilizers (applied prior to seeding), this fertilizer improves the phosphorus uptake of plants as well.

Agricultural Use

Ammonium sulphate fertilizer can be safely used in advance of and during seed sowing, during hoeing, and prior to irrigation for the plants in particular for rice and sulphate requiring onion, garlic, broccoli, cabbage, canola, safflower, poppy, radish, and carrot and for oil crops such as soy beans, peanut, and sunflower. It is applied as a top dressing fertilizer for all fruit trees (except for apple, pear, and quince) including olive and grape, and vegetables. Almost all of the nitrogenous fertilizer need of rice cultivation is met using ammonium sulphate fertilizer.

Application

In long term, ammonium sulphate is a fertilizer with acid characteristic. When the soil bacteria transform its ammonium-N into nitrate-N through an enzymatic reaction, the hydrogen (H) atoms existing in ammonium might decrease soil pH over time. Therefore, it shouldn’t be used in areas being already acidic. In case of its use, liming might be required.

Since ammonium sulphate is of a sugar crystal size, it cannot be mixed with other granular fertilizers and applied using fertilizer application equipment. It should not be used in soils with low extractable magnesium and low in pH (pH 6 or less), and in tea cultivation. Although it is suitable for use with drip irrigation, since it creates the highest electrical conductivity (EC) when dissolves in water, it increase the salt index of nutrient solution.