

## What are L-Amino Acids?

Lately, there's been a lot of talk in the Green Industry about "L-amino acids." The buzz has many people wondering exactly what L-amino acids are. Where do they come from? What do they do? Are they important?

### WHAT ARE L-AMINO ACIDS?

*With names like L-Glycine, L-Glutamic Acid, L-Aspartic Acid, L-Alanine, L-Proline, and L-Leucine, it's pretty easy to imagine that amino acids are some sort of far-out alien entity. But in reality, amino acids are the building blocks of all living organisms (plants and animals). They are produced in nature by plants, animals, and even lightning reactions.*

Most plants can actually manufacture the amino acids they require to live. This is in contrast to many animals (including humans) that are only able to manufacture certain amino acids, and must ingest the others in order to function.

*All amino acids that occur in proteins are of the "L" form (as opposed to "D" form). Essentially, these are mirror images of each other (like a pair of hands); they are very similar in appearance, but with important differences. L-amino acids are a key component to protein molecules.*

*Proteins are catalysts for reactions, and group together to form things like RNA, DNA, and skeletal compounds.*

Normally, plants synthesize their own L-amino acids. During times of stress, however, plants are not able to photosynthesize and produce essential L-amino acids. The energy required to do this is detrimental to plant development (especially roots).

### PLANTS & AMINO ACIDS

*The benefits of L-amino acids for plants are numerous. Among other things, L-amino acids help plants combat stress, increase root mass, activate natural defense mechanisms in plants, and enhance photosynthesis.*

*They also promote nutrient absorption and stimulate the essential metabolic activities in the plant. L-amino acids also help produce healthy plant growth without surges. They also have an additional benefit for plants deficient in nutrients like nitrogen, phosphorus, and sulfur; plants have the ability to break down amino acids for the nutrients encased therein.*

### WE'VE GOT AMINO ACIDS!

Growth Products' Essential Plus® is packed with an amazing 21 L-amino acids. This natural rooting substance and biostimulant also contains plant extracts, humic acid, and a natural wetting agent not found in standard NPK fertilizers. Essential Plus also includes kelp, one of nature's most powerful rooting stimulators. This product can be used to improve plant color, add organic matter to the soil, and improve media cation exchange capacity.

Our 12% Humic Acid also contains 21 L-amino acids. This product improves the cation exchange of your growing media, improves plant physiology, and provides a valuable food source for beneficial microbial activity.

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