

## Amino Acid Comparison

Amino Acid Comparison	Function	Innova	Cottonseed Meal	Poultry manure-dried	Milorganite
Alanine	Regulates opening of the stomata, synthesis of chlorophyll, increased drought tolerance	2.06%			2.31%
Arginine	Enhances root development and stress tolerance	3.60%	4.66%	0.43%	1.88%
Aspartic Acid	Enhances seed germination, source of organic N, AA metabolism	5.57%			2.92%
Cystine	Antioxidant function for proper cellular function	0.71%	0.62%	0.14%	0.47%
Glutamic Acid	Chlorophyll forerunner, enhances seed germination, activates resistance stresses	8.83%			3.80%
Glycine	Chelating properties-favors new growth, precursor of pyrole	1.98%			2.01%
Histidine	Regulates opening of the stomata	1.30%	1.10%	0.20%	0.49%
Hydroxyproline	Enhances root development and stress tolerance	0.00%			
Isoleucine	Increases tolerance to saline stress, increases pollen formation	2.60%	1.33%	0.58%	1.44%
Leucine	Increases salt tolerance and pollen formation	3.80%	2.40%	0.70%	2.41%
Lysine	Enhances chlorophyll synthesis, increases drought tolerance, initial greening response	3.02%	1.70%	0.49%	1.63%
Methionine	Enhances root growth, regulates stomata opening	0.70%	0.51%	0.13%	0.62%
Phenylalanine	Formation of humic compounds for new growth, lignin forerunner for new growth	2.70%	2.23%	0.49%	1.54%
Proline	Favors opening of the stomata-enhances tolerances to osmotic stresses, increases photosynthetic capacity	2.40%			1.52%
Serine	Increases stress tolerances, forms humic compounds, enhances pollination	2.11%			1.33%
Threonine	Defense mechanism during stress, enhances humification process	2.00%	1.34%	0.52%	1.65%
Tryptophan	Precursor of auxins	0.70%	0.52%	0.00%	0.40%
Tyrosine	Increases tolerance to drought stress, increases pollen germination	1.69%			1.02%
Valine	Increases drought tolerance and seed establishment	2.70%	1.82%	0.74%	2.16%
<b>Total</b>		<b>48.47%</b>	<b>18.23%</b>	<b>4.42%</b>	<b>29.60%</b>