HUMIC ACIDS vs. COMPOST

COMPARISON

	Humic Acids	Compost
Soil Humus Levels	• Significant, long-lasting addition of carbon, directly adding to humus levels. Mined humic substances have 60%–70% humic/fulvic acids.	• Rapidly decomposes, leaving minerals behind but releasing carbon into atmosphere as CO_2. Good quality compost has about 5% humic/fulvic acids.
Nutrients	• Will help existing nutrients to become mobile within the soil • Increases availability of P • Stabilizes N • Acts as a chelate complexing agent for N & P	• Minimal effect on existing soil nutrients • May add about 1.5 lb of N, 1 lb P, and 1 lb K per ton of compost • Inconsistent nutrient levels (depending on source material) • No chelating effects
Soil Biology	• Improves microbial diversity • Stimulates beneficial microbes • Does not contain microbial life	• May bring new microorganisms / pests / pathogens / undigested seeds to the soil
Soil Health	• Rapidly enhances soil structure • Detoxifies soils • Buffers soils from effects of heavy metals	• Slowly enhances soil structure • No detoxification effect • No buffering effect (may add heavy metals)
Consistency	• Highly consistent and stable carbon source	• Not consistent—dependent on source material (may contain varying carbon, nutrients, weed seeds, bacteria levels)
pH, CEC, Salt Levels	• Neutralizes pH • Increases CEC (average is 800–1,200; 10x to 20x over compost) • Buffers salt	• May raise or lower pH • Minimally increases CEC • May add salt
Biostimulant Activity	• Concentrated biostimulant effect	• Diluted and highly variable biostimulant effect
Water-Holding Capacity	• Lasting, high water-holding capacity • Holds up to 7x water weight	• Water-holding capacity is high, but it diminishes over time
Health & Safety	• No health or safety concerns	• May contain harmful bacteria, causing plant- or soil-borne diseases. May contain herbicides or pesticides.
Application	• Liquid versions can be applied at any time in the crop season	• Bulky to transport and apply • Can only be applied when no plants are in the field
Application Cost	• 200 lb/ac @ $500/ton = $50/ac (less is required if liquid versions used, may change costs)	• 5 tons/ac (or more) @ $60/ton = $300/ac (or more). Delivery may be an additional per-mile cost.

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