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Organic biostimulants, important inputs for farmers for a decade, now enter the mainstream are crucial to the profitable organic production

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A new category of plant growth promoting products that do not fit into the category of fertilizer or soil amendment now has a category that will be administered by the EPA as "Biostimulant". There were products that have been sold for over 50 years in most cases but were a fringe product that really didn't fit the state fertilizer registration box. Some states do not regulate these products some are draconian because they feel only chemical salt fertilizers are needed. The products include Humic and fulvic acid, kelp products, microbial products, amino acids. These products were and are widely used by organic farmers but lacked credibility from the conventional chemical farming establishment including land-grant universities. Farmers learned about these products from friends and neighbors and pioneers in organic and biodynamic farming. The mode of action for these products was unknown at the time. The active components were hard to quantify and define. We know how these products work and can define and identify the active components. I will discuss these product categories and present data identifying the active components and their effects on organic crops. New scientific knowledge of molecular genetics and genetic pathway activation explain the properties of disease and pest resistance, production of auxins and hormones and an increase in ATP and sugars in the cell/plant. Crucial benefits when chemical inputs and synthetic PGR's and pesticides are not used. Fulvic acid activates resistance pathways, which turns on plants defenses against pests and disease.

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