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LET'S GET STARTED!
MVR NEWSLETTER

LET'S GET STARTED - MVR Newsletter

Find the latest research on humic substances at www.humates.com!

To Our Highly Valued Customers,

Welcome to the Fall 2011 edition of LET'S GET STARTED! - MVR's Newsletter. The Spring season has been a tough start to the growing year in much of the country due to cooler and wetter weather than usual. In other parts, severe drought has been a major problem and created stressed conditions in the field. We wish you all a successful harvest this season and cooperative weather! Before harvesting begins, we want to share some ideas with you on using humic products in your fall programs to help bring these less than perfect conditions around to your benefit, while you have a little bit of time to think about it!

Technical Bulletins

(A) "The Soil Biology Revolution"

A recent article was published in Ag Professional titled "Soil Biology Revolution" (Ruen, 2011). The article mentions two researchers from USDA ARS named Charlie Wathall and Jerry Hatfield who are "rebels with a cause" because they are publishing research showing the importance of soil microorganisms in crop production. Well, I hate to be a wet blanket here guys, but this particular revolution has been going on since the early 1970's! It is good, however, to see mainstream researchers from conventional organizations finally paying heed to the importance of soil biology in production soils. It's also good to see them working in conjunction with out-of-the-box thinkers on fertilizer formulas that support soil microbes, rather than destroying them.

"Jerry Hatfield, director, National Laboratory for Agriculture and the Environment, (formerly Soil Tilth Lab), Ames, Iowa, points to variations in crop yield across any given field as evidence of a need to look deeper than genetics, tillage or traditional nutrient applications. "When we watch a yield monitor as a combine crosses a field, we can see yield variations from 75 bushels to 100 bushels to 250 bushels," said Hatfield. "A lot of that is due to poor soils in parts of the field. If all that was missing was nitrogen (N), phosphorus (P) and potassium (K), then adding them should alleviate the yield difference. But we need to approach the problem from a more holistic viewpoint."

Whew! All we need to do now is convince folks that adding humic acids to their program will act as a catalyst for increasing humic substances in the soil - in a time frame the producer can live with - which will support that soil biology and foster the improved health of those trouble spots.

Humic substances provide the ideal substrate, or foundation, for soil microbes to operate from. These substances have a bio-chemical stimulus on microbes and allow for not only increases in their populations, but increased diversity as well. Diversity is important because certain types of microbes flourish in a certain, narrow range of conditions. If a pathogen, like powdery mildew or fusarium, tries to take hold in a given soil environment, it's necessary to have a full and diverse range of beneficial microbes that can thrive in a number of conditions in order to overwhelm and out-compete those pathogens (The Carbon Connection, Ridzen et al 1994). Fulvic acid increased the growth of *Rhizobium Trifolii* by 200% and sodium humate increased the growth rate by 52% vs. the control in a study by Ekardway and Gaur, 1972. These are nitrogen fixing bacteria that can make use of the tens of thousands of pounds of nitrogen in the atmosphere over every acre of farm land (A&L Agronomy Handbook). Just another example of how soil microbes play a critical role.

If you're interested in the article you can find it at <http://www.agprofessional.com/agprofessional-magazine/Soil-Biology-Revolution-126772023.html> and if you're interested in more on this technology, please [contact us](#) for more details!

(B) Humates and Moisture Management

In 100 lbs of dry soil, 4% - 5% organic matter can hold 165 lbs - 195 lbs of water. That's equal to 4" - 6" of rain! Soils with 1.5% - 2% OM can hold only 35 lbs - 45 lbs of water, or the equivalent of 0.5" - 1.5" of rain (Prior et al, 2003). That's still a lot of moisture! The key is, to open up our tighter soils, stabilize our sandier soils and allow percolation and drainage, without washing away nutrients at the same time. Humic acids build "intermolecular associations" or, they connect cations and anions in the soil to build these structures that force apart tight soils and stabilize sandier ones (Von Wandruszka et al, 2000). They also help keep those nutrients in reserve through these associations, keeping them available to the crop. Making the best use of our water sources is critical, and the ability to increase moisture retention and proper drainage may allow us to conserve water on an unprecedented level in Ag. We just have to focus on this technology!

(C) Humates and Ammonia Loss

There is also great research showing the ability of humic acids and fulvic acids to stabilize nitrogen. Big money is paid for products like Agrotain that accomplish N stabilization so the crop can utilize available N for a longer period of time. Humic acid molecules have large numbers of "polycyclic functional groups" which have the ability to chelate nitrogen. Think of humic acids as the carbon storage battery of the soil. As we increase their levels in the soil to 10ppm - 50ppm we see these acids chelate nitrogen, hold it in reserve, and keep it available to the crop. This reduces N loss to the atmosphere, or volatilization, and loss due to leaching (Ahmed et al, 2006).

Here is the research document: http://www.humates.com/pdf/Effects_of_Urea_Humic_Acid_and_Phosphate_Interactions-Ammonia_Volatilization.pdf

Humic Products Trade Association

www.humictrade.org

Mesa Verde Resources is proud to be a co-founder of the HPTA, which tackles everything in the humic industry from animal feed regulations, to standardized test methods for humic acids, to getting the correct science based explanations of humic substances to the public. Our annual general meeting will be held in Chicago this year on Sept 8th - 9th. Please [let us know](#) if you are interested in attending, in membership or in contributing to the HPTA's mission in any way. We welcome new members, new ideas and value your input!


COA & MSDS

[Request MSDS or COA](#)

If you need to update any of your records, please let us know and we can send you an updated MSDS or COA.

We look forward to working with you all more and more as the 2011 season continues. We are always available for helping you find ways to grow your business.

If you have any comments, suggestions or questions, please don't hesitate to contact us:



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