



The Basics of Humics

THE BENEFITS OF HUMIC TECHNOLOGY AND WHY MONTY'S IS THE BEST IN THE INDUSTRY

1. What are humics? Humic substances can be broken down into humic acid and fulvic acid. Humic acid is a principal component of humic substances. Humic substances are the major organic constituents of soil (humus), peat, and coal. They are also found in upland streams, lakes, and ocean water. Humic substances are produced by the decomposition of organic matter.

2. How can humics help me to increase my yield? Humics stimulate microbial activity in soil, help break up compacted soil, assist in transferring micronutrients from the soil to the plant, enhance water retention, increase seed germination, and improve the breakdown of plant residue.

3. Will I get an ROI? It is widely recognized that by improving the soil and stimulating the plant, increased yields will follow. University and on-the-farm trials have shown significant improvements in the overall health of soil and plants, and therefore you should see a return on your investment.

4. Why do different humic products have different percentages? There is no industry standard for the analysis of humics and different manufacturers use different testing methods. Consequently, we see different results on labeling. The Humic Products Trade Association of which Monty's is a member, is leading the effort to bring standardized testing to both state regulators and the agriculture industry. Although a new standard has been approved, adoption is slow.

5. How can Monty's lower % humic be better than the competition's higher % humic? Whether its 50%, 25%, or 12.6%, humics in their natural state are insoluble. This means they cannot disperse effectively through the soil profile. Monty's proprietary processing technology makes our product the most active and soluble available. Our humics are more pure and have the ideal humic-to-fulvic ratio to provide for maximum yield and success. We understand the right concentration of humic substances to maximize biological stimulation. This is why our lower concentrations are more effective. This is our advantage.

6. What is purity (active ingredients) versus non-purity (active ingredients)? Our humics are purified and contain primarily humic substances (beneficial material). In other products, there is clay and ash (non-beneficial material) bound to the humic substances, which can lead to performance issues, including clogging of spray equipment. This is our advantage.

7. Can you use too much? Application of Monty's® Liquid Carbon™ and Dri-Carbon™ at rates up to 50 times those recommended, are not toxic or harmful to the environment – including soil, plant, and native soil microorganisms. Monty's recommended application rates allow for maximum, cost-effective results.

8. How can you apply two quarts to an acre and get results? Our proprietary humics are purified and activated, have the correct humic-to-fulvic ratio, and are applied at the optimum humic concentration. Therefore we have a lower rate of application and can achieve greater results by stimulating the soil's natural biology in the most effective way.

9. How does your cost/acre compare to other humic products? Our cost per acre is generally lower because our humics are purified and activated, have the correct humic-to-fulvic ratio, and are applied at the optimum humic concentration. Although our cost/gallon may be greater, our cost/acre is generally less because of our lower application rates.

10. Why do some companies recommend using 10 times more dry humics than Monty's? Many dry humics on the market are simply crushed brown coal. In this state, humic substances are mostly insoluble and inactive. Therefore the competition must recommend higher application rates. Monty's Dri-Carbon contains both soluble humic and fulvic acids. More isn't always better.

11. How do you show/know it's active? Activity is measured in the soil and plants. Soil testing will show the results: reduced soil compaction, improved overall soil health, enhanced micronutrient uptake, and enhanced breakdown of plant residue. Results may include increased root mass, healthier plants and ultimately a higher yield. As an example, a recent study by North Carolina State University* found a 12% average increase in yield over untreated soil.

12. Why are some products clean and some have sludge? Monty's is the cleanest humic product available. Because of this, there is less opportunity for sludge to develop compared to other products in the industry. Monty's liquid products are a true humic solution. Most competitive products are a suspended humic. Suspended humics are not as active and often times settle out as sludge and clog nozzles.

*NC State University, Department of Crop Science, College of Agriculture and Life Sciences.

For more information, consult your Monty's sales representative, visit montysplantfood.com, or contact Monty's at 800.978.6342.

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13. Can Monty's Dri-Carbon be blended with fertilizer and spread in the field? Yes. Our field studies and university trials have not shown any compatibility issues to date. Monty's Dri-Carbon is soluble in water. Care should be taken when mixing with other fertilizers in high humidity or rainy conditions.

14. Can different testing methods yield different results? Yes. Unfortunately, some tests include ash and other impurities in their humic acid reading, thus yielding a higher number. Monty's products are tested using the California Department of Food and Agriculture standard method, which is currently the leading testing method for the states which regulate soil products. In states which do not regulate soil products, competitors often use other methods which yield higher humic content. Monty's uses the California method regardless of where our products are sold. If Monty's used the competitors' methods of measuring Humic acid, our results would increase up to 24%.

15. What are the advantages of using Monty's products throughout the year? Monty's humic products are continuously working when used throughout the year. Monty's recommended programs can improve your soils and maximize your yields year after year, providing the most cost-effective solution available.

16. How often do you have to apply Monty's humic products? Monty's recommends our humic products be incorporated into your annual nutrient management program for continued benefits. Monty's Carbon products should be applied at least once each year. More frequent applications, up to 3 times per year, can result in greater performance and higher yield. Ask your Monty's representative for more details.

17. Why are you telling me to add carbon, when I have plenty of carbon in my soil? Carbon has many forms, but stable, organic carbon is our priority. Monty's Liquid Carbon is the product name for our active humic products. Monty's Liquid Carbon contains highly purified and activated humic substances with carbon in their molecular structure. This type of carbon is stable and organic.

18. Does Monty's activated humic technology work in all soil types? Yes. Whether you have clay soils and compaction or sandy soils, Monty's Liquid Carbon and Monty's Dri-Carbon can provide benefits to the soil.

19. How long before it starts working? Monty's Liquid Carbon starts working immediately upon application to the soil. Monty's Dri-Carbon begins working as it dissolves.

20. Are there compatibility issues when mixing Monty's products with other products? Our field studies and university trials have not shown any compatibility issues to date. Always follow other product label instructions, and jar test first when adding other chemicals.

21. How do humics raise/lower pH in my soil? Soils can be either acidic or alkaline due to excessive cations or anions in the soil. Because humic substances have both positively and negatively charged locations on them, they are able to bring more balance to the acidic (positive/cations) or alkaline (negative/anions) conditions in the soil.

22. How does Monty's humic increase microbial activity? Humic products increase microbial activity by providing optimum conditions for microbial life and protecting microbes from adverse external conditions.

23. Do humics increase cation exchange capacity (cec) in the soil? Humic substances by themselves have a very high CEC. When added to soil, humic substances stimulate soil organic matter production, which is rich in humus. Humus has a high CEC, which raises CEC levels on the soil test.

24. What are the differences/advantages of Dri-Carbon vs. Liquid Carbon? Both Liquid and Dri- effectively promote new soil mineral formation. Because of its manufacturing process, Dri-Carbon contains more soil minerals and micronutrients. Monty's Liquid Carbon is immediately active in the soil. Monty's Dri-Carbon must dissolve to be active. The difference is the application. Both Monty's Liquid Carbon and Dri-Carbon can be mixed with other products to eliminate additional passes in the field. Both offer the benefits of humics to your soil. The difference is the application method which works best for you. It depends on your farming practices and the equipment you use.

25. Can I buy Monty's Liquid Carbon everywhere? Unfortunately, no. Each state has its own label regulations and requirements. Though humics are popular and widely used, some states have yet to recognize the technology.

Visit www.montysplantfood.com for more questions and answers about the impact humics can have on soil and plant health.

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