

Mail Stop 3561

April 11, 2008

Via Fax & U.S. Mail

Mr. Terrell K. Crews  
Chief Financial Officer  
800 North Lindbergh Boulevard  
St. Louis, Missouri 63167

**Re:   Monsanto Company  
      Form 10-K for the year ended August 31, 2007  
      Filed October 26, 2007  
      File No. 001-16167**

Dear Mr. Crews:

We have reviewed your response letter dated April 8, 2008 and have the following comments. Unless otherwise indicated, we think you should revise your document in future filings in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Please respond to confirm that such comments will be complied with, or, if certain of the comments are deemed inappropriate, advise the staff of your reason. Your response should be submitted in electronic form, under the label "corresp" with a copy to the staff. Please respond within ten (10) business days.

Form 10-K for the year ended August 31, 2007

Notes to the Financial Statements

Note 21. Commitments and Contingencies, page 95

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1. We note from your response to our prior comment 2 that certain lease agreements provide for base rent to be adjusted based on your utilization of the leased space. Please tell us how you account for these lease agreements in accordance with FTB 88-1 which indicates that if rents escalate in contemplation of your physical use of leased property, but you take possession of or control the physical use of the property at the beginning of the lease term, all rental payments, including the escalated rents, should be recognized as rental expense or rental revenue on a straight-line basis. Please advise. Also, please revise future filings to disclose any escalation provisions. See paragraph 16 of SFAS No. 13.

Form 10-Q for the quarter ended February 29, 2008  
Note 16. Commitments and Contingencies

2. We note that upon Solutia's emergence from bankruptcy, you received approximately 2.5 million shares of common stock of Solutia and valued the shares at \$38 million. Please explain to us, and disclose in future filings, how you calculated or determined the value of the shares received. If the transaction was recorded based on the fair value of the shares issued, please explain how "fair value" was determined.

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You may contact Claire Erlanger at (202) 551-3813 or Jean Yu at (202) 551-3305 if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3816 with any other questions.

Sincerely,

Joseph A. Foti  
Senior Assistant Chief Accountant