

FRALEY ROBERT T  
 Form 4  
 January 10, 2011

**FORM 4**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
 Washington, D.C. 20549**

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person \*  
**FRALEY ROBERT T**

(Last) (First) (Middle)  
 800 N. LINDBERGH BLVD.  
 (Street)

ST. LOUIS, MO 63167

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol  
**MONSANTO CO /NEW/ [MON]**

3. Date of Earliest Transaction (Month/Day/Year)  
 01/06/2011

4. If Amendment, Date Original Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

\_\_\_ Director \_\_\_ 10% Owner  
 Officer (give title below) \_\_\_ Other (specify below)  
 EVP, Chief Technology Officer

6. Individual or Joint/Group Filing(Check Applicable Line)  
 Form filed by One Reporting Person  
 \_\_\_ Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)			
			Code	V	Amount	(A) or (D)	Price			
Common Stock	01/06/2011		M <sup>(1)</sup>		13,370	A	\$ 29.2175	88,395	D	
Common Stock	01/06/2011		S <sup>(1)</sup>		23,370	D	\$ 72	65,025	D	
Common Stock								24,029	I	By 2003 GRAT
Common Stock								4,297	I	By 2009 GRAT I
Common Stock								10,000	I	By 2010 GRAT I



## Explanation of Responses:

- \* If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) The sale and stock option exercise reported on this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the Reporting Person on April 20, 2010.  
One-third of the options became exercisable on November 15, 2006, one-third of the options became exercisable on November 15, 2007
- (2) and the remainder of the options became exercisable on November 15, 2008, subject to the terms of the Monsanto Company Long-Term Incentive Plan.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.