FRALEY ROBERT T

Form 4

January 12, 2010

FORM 4

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

OMB Number: 3235-0287

Estimated average

5. Relationship of Reporting Person(s) to

Check this box if no longer subject to

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Expires: January 31, 2005

OMB APPROVAL

Section 16. Form 4 or Form 5 obligations may continue.

See Instruction

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

2. Issuer Name and Ticker or Trading

burden hours per response... 0.5

1(b).

Stock

(Print or Type Responses)

1. Name and Address of Reporting Person *

FRALEY ROBERT T				Symbol MONSANTO CO /NEW/ [MON] 3. Date of Earliest Transaction (Month/Day/Year) 01/11/2010						Issuer			
(Last) (First) (Middle) 800 N. LINDBERGH BLVD.									(Check all applicable) Director 10% OwnerX_ Officer (give title Other (specify below) EVP, Chief Technology Officer				
(Street) ST. LOUIS, MO 63167				4. If Amendment, Date Original Filed(Month/Day/Year)						6. Individual or Joint/Group Filing(Check Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting Person			
	(City)	(State)	(Zip)	Tabl	e I - Noi	n-D	erivative S	Securi	ties Acqu	iired, Disposed of	, or Beneficial	ly Owned	
	1.Title of Security (Instr. 3)	2. Transaction Da (Month/Day/Year	e) Execution any		3. Transac Code (Instr. 8	3)	4. Securiti n(A) or Dis (Instr. 3, 4)	sposed	of (D) Frice	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)	
	Common Stock	01/11/2010			M(1)		10,000	A	\$ 44.06	107,334	D		
	Common Stock	01/11/2010			S <u>(1)</u>		10,000	D	\$ 87	97,334	D		
	Common Stock									27,559	I	By Grantor Retained Annuity Trust	
	Common									6,003	I	Ву	

Grantor

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			Retained Annuity Trust II
Common Stock	10,000	I	By Grantor Retained Annuity Trust III
Common Stock	2,556	I	By Children
Common Stock	9,704	I	By 401(k)

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

SEC 1474

(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)	5. Number of on Date Exercisable and Expiration Date Securities (Month/Day/Year) Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)			7. Title and Am Underlying Sec (Instr. 3 and 4)	
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	A or N of
Option(Right to Buy)	\$ 44.06	01/11/2010		M <u>(1)</u>	10,000	11/15/2007(2)	10/26/2016	Common Stock	1

Reporting Owners

Reporting Owner Name / Address	Relationships						
	Director	10% Owner	Officer	Other			
FRALEY ROBERT T 800 N. LINDBERGH BLVD. ST. LOUIS, MO 63167			EVP, Chief Technology Officer				

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Signatures

Jennifer L. Woods, Attorney-in-Fact

01/12/2010

**Signature of Reporting Person

Date

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 stock option exercise and sale reported on this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the Reporting Person on October 20, 2009.
- One third of the options became exercisable on November 15, 2007, one-third of the options became exercisable on November 15, 2008
- (2) and one-third of the options became exercisable on November 15, 2009, subject to the terms and conditions 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.

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