FRALEY ROBERT T

Form 4

October 18, 2012

FORM 4

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

OMB Number: 3235-0287

Check this box if no longer subject to Section 16.

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Expires: January 31, 2005

OMB APPROVAL

Form 4 or
Form 5
Filed pursuant to Section 16(a) of the Securities Exchan obligations

Section 17(a) of the Public Helding Communication.

Estimated average burden hours per response... 0.5

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

1(b).

(Print or Type Responses)

| 1. Name and Addr FRALEY ROE | * | ng Person * | 2. Issuer Name and Ticker or Trading Symbol MONSANTO CO /NEW/ [MON] | 5. Relationship of Reporting Person(s) to Issuer | | |
|--------------------------------|----------|-------------|--|---|--|--|
| (Last) | (First) | (Middle) | 3. Date of Earliest Transaction | (Check all applicable) | | |
| 800 N. LINDBERGH BLVD. | | /D. | (Month/Day/Year) 10/16/2012 | Director 10% Owner _X_ Officer (give title Other (specify below) EVP, Chief Technology Officer | | |
| | (Street) | | 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 | | |
| ST. LOUIS, MO 63167 | | | | Form filed by More than One Reporting Person | | |

| | | | | | | | 1 CISOII | | |
|--------------------------------------|---|---|---|---------------|--------|---------|---|------------------|---|
| (City) | (State) | Zip) Table | I - Non-D | erivative S | ecurit | ies Acc | quired, Disposed | of, or Beneficia | lly Owned |
| 1.Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. 4. Securities Transaction(A) or Disport Code (D) (Instr. 8) (Instr. 3, 4 a) (Code V Amount (| | | of | 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 | 10/16/2012 | | A | 21,300 (1) | A | \$0 | 90,812 | D | |
| Common Stock | | | | | | | 14,029 | I | By Trust - 2003 GRAT I |
| Common Stock | | | | | | | 6,406 | I | By Trust - 2010 GRAT I |
| Common Stock | | | | | | | 4,663 | I | By Trust - 2010 GRAT II |

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| Common Stock | 6,000 | I | By Family LLC |
|-----------------|-------|---|-------------------------|
| Common Stock | 3,906 | I | By Trust - Childrens |
| Common Stock | 3,846 | I | By 401(k) Plan |

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

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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) | 4. Transaction Code (Instr. 8) | 5. Number of or Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisab Expiration Date (Month/Day/Year | | 7. Title and A Underlying S (Instr. 3 and 4 | Securities |
|---|---|--------------------------------------|---|--|---|--------------------|---|------------------------------------|
| | | | Code V | (A) (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Share |
| Option (Right to Buy) | \$ 90.48 | 10/16/2012 | A | 41,450 | 11/15/2013(2) | 10/16/2022 | Common Stock | 41,450 |

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

Signatures

Christopher A. Martin, Attorney-in-Fact

**Signature of Reporting Person Date

Reporting Owners 2

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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) Restricted stock unit grant pursuant to the Monsanto Company 2005 Long-Term Incentive Plan vesting on August 31, 2013.
 - One-third of the options become exercisable on November 15, 2013, one-third of the options become exercisable on November 15, 2014
- (2) and the remainder of the options become exercisable on November 15, 2015, subject to the terms and conditions of the Monsanto Company 2005 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.