MONSANTO CO /NEW/

Form 4

September 05, 2007

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

OMB

Check this box if no longer subject to Section 16.

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

3235-0287 Number: January 31, Expires: 2005

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OMB APPROVAL

Form 4 or Form 5 obligations may continue.

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

burden hours per response...

Estimated average

See Instruction 1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * CASALE CARL M			2. Issuer Name and Ticker or Trading Symbol MONSANTO CO /NEW/ [MON]	5. Relationship of Reporting Person(s) to Issuer (Check all applicable)		
(Last)	(Last) (First) (Middle)		3. Date of Earliest Transaction	(Check all applicable)		
800 N. LINDBERGH BLVD.			(Month/Day/Year) 08/31/2007	Director 10% Owner _X Officer (give title Other (specify below) EVP-North America Commercial		
	(Street)		4. If Amendment, Date Original	6. Individual or Joint/Group Filing(Check		
ST. LOUIS, N	ИО 63167		Filed(Month/Day/Year)	Applicable Line) _X_ Form filed by One Reporting Person Form filed by More than One Reporting Person		

(City) (State) (Zip) Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned 1.Title of 2. Transaction Date 2A. Deemed 3. 4. Securities Acquired (A) 5. Amount of 7. Nature of Security (Month/Day/Year) Execution Date, if Transactionor Disposed of (D) Securities Ownership Indirect (Instr. 3) (Instr. 3, 4 and 5) Code Beneficially Form: Beneficial (Month/Day/Year) (Instr. 8) Owned Direct (D) Ownership Following or Indirect (Instr. 4) Reported (I) (A) Transaction(s) (Instr. 4) (Instr. 3 and 4) Code V Amount (D) Price Common 12,769 D \$ 68.18 08/31/2007 F 49,166 D (1) Stock Common 09/04/2007 $M^{(2)}$ 30,892 80,058 D Stock 16.1925 Common $S^{(2)}$ D 09/04/2007 192 D \$71.11 79,866 Stock Common $S^{(2)}$ 09/04/2007 2,100 D \$ 71.1 77,766 D Stock Common 09/04/2007 $S^{(2)}$ 100 D \$ 70.95 77,666 D Stock

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Common Stock	09/04/2007	S(2)	3,400	D	\$ 70.9	74,266	D	
Common Stock	09/04/2007	S(2)	6,600	D	\$ 70.87	67,666	D	
Common Stock	09/04/2007	S(2)	800	D	\$ 70.81	66,866	D	
Common Stock	09/04/2007	S(2)	8,000	D	\$ 70.8	58,866	D	
Common Stock	08/09/2007	S(2)	9,700	D	\$ 70.75	49,166	D	
Common Stock						726	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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(9-02)

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

1. Title of Derivative	2. Conversion	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if	4.	5. Number		6. Date Exercisable	le and	7. Title and A	
Security (Instr. 3)	or Exercise Price of Derivative Security	(Month Day Tear)	any (Month/Day/Year)			Expiration Date (Month/Day/Year)		Underlying Securities (Instr. 3 and 4)		
				Code V	(A) (D		Date Exercisable	Expiration Date	Title	Amount or Number of Share
Option (Right to Buy)	\$ 16.1925	09/04/2007		M(2)	30,8	892	03/15/2005(3)	02/26/2014	Common Stock	30,89

Reporting Owners

Reporting Owner Name / Address	Relationships							
F	Director	10% Owner	Officer	Other				
CASALE CARL M 800 N. LINDBERGH BLVD. ST. LOUIS, MO 63167			EVP-North America Commercial					

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Signatures

Christopher A. Martin, Attorney-in-Fact

09/05/2007

**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) On August 31, 2007, 30,080 restricted stock units became fully vested for which taxes became due and payable. 12,769 restricted stock units were used for the payment of these taxes.
- (2) The sales and stock option reported on this Form 4 were effected pursuant to a Rule 10b5-1 trading plan adopted by the Reporting Person on July 9, 2007.
- One-third of the options became exercisable on March 15, 2005, one-third of the options became exercisable on March 15, 2006 and one-third of the options became exercisable on March 15, 2007, 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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