

HOLLOWAY JANET M
 Form 4
 August 23, 2007

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 *
HOLLOWAY JANET 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) (First) (Middle)
800 N. LINDBERGH BLVD.

3. Date of Earliest Transaction (Month/Day/Year)
08/21/2007

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)
 VP & Chief of Staff

(Street)
ST. LOUIS, MO 63167

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

6. Individual or Joint/Group Filing(Check Applicable Line)
 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 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	08/21/2007		M ⁽¹⁾	10,300 A \$ 16.1925	88,264	D	
Common Stock	08/21/2007		S ⁽¹⁾	100 D \$ 64.12	88,164	D	
Common Stock	08/21/2007		S ⁽¹⁾	1,632 D \$ 64.11	86,532	D	
Common Stock	08/21/2007		S ⁽¹⁾	500 D \$ 64.1	86,032	D	
Common Stock	08/21/2007		S ⁽¹⁾	400 D \$ 64.09	85,632	D	

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Common Stock	08/21/2007	<u>S(1)</u>	200	D	\$ 64.08	85,432	D	
Common Stock	08/21/2007	<u>S(1)</u>	300	D	\$ 64.07	85,132	D	
Common Stock	08/21/2007	<u>S(1)</u>	300	D	\$ 64.06	84,832	D	
Common Stock	08/21/2007	<u>S(1)</u>	300	D	\$ 64.05	84,532	D	
Common Stock	08/21/2007	<u>S(1)</u>	1,168	D	\$ 64.04	83,364	D	
Common Stock	08/21/2007	<u>S(1)</u>	2,100	D	\$ 64.03	81,264	D	
Common Stock	08/21/2007	<u>S(1)</u>	700	D	\$ 64.02	80,564	D	
Common Stock	08/21/2007	<u>S(1)</u>	2,600	D	\$ 64.01	77,964	D	
Common Stock						5,328	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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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 Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)	7. Title and Amount of Underlying Securities (Instr. 3 and 4)	Amount or Number of Shares
Option (Right to Buy)	\$ 16.1925	08/21/2007		<u>M(1)</u>	10,300	03/15/2005 ⁽²⁾ 02/27/2014	Common Stock	10,300

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
HOLLOWAY JANET M 800 N. LINDBERGH BLVD. ST. LOUIS, MO 63167			VP & Chief of Staff	

Signatures

Christopher A. Martin, Attorney-in-Fact	08/23/2007
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__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 sales 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 July 5, 2007.
One-third of the options became exercisable on March 15, 2005, one-third of the options became exercisable on March 15, 2006 and
- (2) 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.