HOLLOWAY JANET M

Form 4

August 23, 2007

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB Number:

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response...

if no longer subject to Section 16. Form 4 or Form 5

Check this box

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

1(b). (Print or Type Responses)

1. Name and Address of Reporting Person *

2. Issuer Name and Ticker or Trading Symbol

5. Relationship of Reporting Person(s) to

Issuer

(Last) (First)

HOLLOWAY JANET M

(Middle)

MONSANTO CO /NEW/ [MON] 3. Date of Earliest Transaction

Director

10% Owner

800 N. LINDBERGH BLVD.

(Month/Day/Year) 08/21/2007

Filed(Month/Day/Year)

X_ Officer (give title below)

Other (specify

(Street)

4. If Amendment, Date Original

Applicable Line)

X Form filed by One Reporting Person

6. Individual or Joint/Group Filing(Check

(Check all applicable)

VP & Chief of Staff

Form filed by More than One Reporting

Person

ST. LOUIS, MO 63167

(City)	(State)	(Zip) Tak	ole I - Non-	Derivative	Secu	rities Acquir	red, Disposed of,	or Beneficiall	y Owned
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	rate, if Transactionor Disposed of (D) Code (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)
Common Stock	08/21/2007		M(1)	10,300	A	\$ 16.1925	88,264	D	
Common Stock	08/21/2007		S <u>(1)</u>	100	D	\$ 64.12	88,164	D	
Common Stock	08/21/2007		S <u>(1)</u>	1,632	D	\$ 64.11	86,532	D	
Common Stock	08/21/2007		S <u>(1)</u>	500	D	\$ 64.1	86,032	D	
Common Stock	08/21/2007		S <u>(1)</u>	400	D	\$ 64.09	85,632	D	

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Common Stock	08/21/2007	S <u>(1)</u>	200	D	\$ 64.08	85,432	D	
Common Stock	08/21/2007	S <u>(1)</u>	300	D	\$ 64.07	85,132	D	
Common Stock	08/21/2007	S <u>(1)</u>	300	D	\$ 64.06	84,832	D	
Common Stock	08/21/2007	S <u>(1)</u>	300	D	\$ 64.05	84,532	D	
Common Stock	08/21/2007	S <u>(1)</u>	1,168	D	\$ 64.04	83,364	D	
Common Stock	08/21/2007	S <u>(1)</u>	2,100	D	\$ 64.03	81,264	D	
Common Stock	08/21/2007	S <u>(1)</u>	700	D	\$ 64.02	80,564	D	
Common Stock	08/21/2007	S <u>(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 onDerivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)		6. Date Exercisab Expiration Date (Month/Day/Year		7. Title and Amount of 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	08/21/2007		M <u>(1)</u>		10,300	03/15/2005(2)	02/27/2014	Common Stock	10,30

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

**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 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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