Rial Sergio Form 3 October 12, 2010

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

OMB APPROVAL

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SECURITIES

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF

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 *

Rial Sergio

(Last)

(First)

(Middle)

Statement

(Month/Day/Year)

10/07/2010

2. Date of Event Requiring 3. Issuer Name and Ticker or Trading Symbol

MOSAIC CO [MOS]

4. Relationship of Reporting Person(s) to Issuer

5. If Amendment, Date Original

Filed(Month/Day/Year)

C/O THE MOSAIC

COMPANY, Â 3033 CAMPUS

DRIVE. SUITE E490

(Street)

(State)

10% Owner _X_ Director Officer Other

(give title below) (specify below)

(Check all applicable)

6. Individual or Joint/Group Filing(Check Applicable Line)

X Form filed by One Reporting

Person

Form filed by More than One

Reporting Person

PLYMOUTH. MNÂ 55441

(Zip)

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security

(Instr. 4)

(City)

2. Amount of Securities Beneficially Owned

(Instr. 4)

3. Ownership Form:

4. Nature of Indirect Beneficial Ownership (Instr. 5)

Direct (D) or Indirect (I)

(Instr. 5)

Common Stock

0

Â D

Reminder: Report on a separate line for each class of securities beneficially

owned directly or indirectly.

SEC 1473 (7-02)

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.

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

1. Title of Derivative Security (Instr. 4)

Expiration Date (Month/Day/Year)

2. Date Exercisable and 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)

4. 5. Ownership Conversion or Exercise Form of

6. Nature of Indirect Beneficial Ownership (Instr. 5)

Price of Derivative Derivative Security:

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Date Expiration Title Exercisable Date

Amount or Security Number of Shares Direct (D) or Indirect (I) (Instr. 5)

Reporting Owners

Reporting Owner Name / Address

Director 10% Owner Officer Other

Rial Sergio

C/O THE MOSAIC COMPANY
3033 CAMPUS DRIVE, SUITE E490

PLYMOUTH, MNÂ 55441

Signatures

/s/ Richard L. Mack, Attorney-in-Fact for Sergio Rial

10/12/2010

**Signature of Reporting Person

Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 5(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).

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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