

Nutrient or Fertilizer Applications



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Northern Plains Region



United States Department of Agriculture
National Agricultural Statistics Service



Section Purpose

- Identify nutrients or fertilizer used to produce the commodity of interest on the selected field.
- Fertilizer application data is used to analyze water quality and agricultural productivity issues and policies.
- Nutrient Management practices help farmers adjust fertilizer applications to crop needs and reduce costs and losses to the environment.



Getting Started In Section C

C	NUTRIENT or FERTILIZER APPLICATIONS — SELECTED FIELD	C					
1. Were commercial nutrients or fertilizers applied to the selected field for the 2023 soybean crop? INCLUDE those from operators, landlords, and contractors.....	<table border="1"><thead><tr><th>Yes=1 No=3</th><th>Code</th><th>Office Use Edit Table</th></tr></thead><tbody><tr><td></td><td>0202</td><td>0200</td></tr></tbody></table>	Yes=1 No=3	Code	Office Use Edit Table		0202	0200
Yes=1 No=3	Code	Office Use Edit Table					
	0202	0200					
[If item 1 = 1 continue. Otherwise go to item 6]							
2. How many commercial nutrient or fertilizer applications were made to the selected field for the 2023 crop? INCLUDE applications made by airplanes and custom applicators.....		<table border="1"><thead><tr><th>Number</th></tr></thead><tbody><tr><td>0203</td></tr></tbody></table>	Number	0203			
Number							
0203							

Code Yes=1 if Applied Fertilizers and No=3
Record the number of applications



What is Included

INCLUDE

- Custom applied nutrients or fertilizers
- Nutrients or fertilizers applied in the fall of 2023 and those applied earlier if the selected field was fallow in 2023.
- Commercially prepared manure or compost



What is Excluded

EXCLUDE

- Micronutrients
- Unprocessed manure
- Nutrients or fertilizers applied to previous crops in the selected field
- Lime and gypsum/landplaster



Nutrient or Fertilizer Applications Table

		Nitrogen Codes for Column 2					Application Codes for Column 6				
		1 Anhydrous ammonia		6 Ammonia sulfate			1 Broadcast, ground without incorporation		5 In irrigation water		
		2 Nitrogen solution (UAN)		7 Potassium nitrate, magnesium nitrate, and calcium nitrate			2 Broadcast, ground with incorporation		6 Chisel/injected or knifed in		
		3 Urea		8 Other nitrogen fertilizer material [specify: _____]			3 Broadcast, by aircraft		7 Banded in or over row		
		4 Ammonium nitrate					4 In seed furrow		8 Foliar or directed spray		
		5 Sodium nitrate									
LINE	2 Materials Used [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Nutrients or Fertilizers in Respondent Booklet] [Refer to nitrogen list above for type of nitrogen used.]					3 What quantity was applied per acre? [Leave this column blank if actual nutrients were reported]	4 [Enter material code] 1 Pounds 12 Gallons 13 Quarts 19 Pounds of actual nutrients	5 When was this applied? 1 In the fall before seeding 2 In the spring before seeding 3 At seeding 4 After seeding	6 How was this applied? [Refer to code list above]	7 How many acres in the selected field were treated in this application? Acres	
	N Nitrogen	P ₂ O ₅ Phosphate	K ₂ O Potash	S Sulfur	Type of N Used						
01	31	32	33	34	35	36	37	38	39	40 _____	
02	31	32	33	34	35	36	37	38	39	40 _____	
03	31	32	33	34	35	36	37	38	39	40 _____	



Fertilizer is made up of 2 things:

- **Actual Nutrients**

- N: Nitrogen
- P: Phosphorus
- K: Potassium
- S: Sulfur
- And many others

- **Carrier Material**

- Filler - other stuff



Example Nutrients to grow a crop

- 105 pounds of Nitrogen per acre
- 35 pounds of Phosphorus per acre
- 55 pounds of Potassium per acre



2 Ways to Record Nutrient or Fertilizer Applications:

- **Percent Analysis – most common & preferred**

- **Pounds of Actual Nutrients**

LINE	2 Materials Used [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Nutrients or Fertilizers in Respondent Booklet] [Refer to nitrogen list above for type of nitrogen used.]					3 What quantity was applied per acre? [Leave this column blank if actual nutrients were reported]	4 [Enter material code] 1 Pounds 12 Gallons 13 Quarts 19 Pounds of actual nutrients	5 When was this applied? 1 In the fall before seeding 2 In the spring before seeding 3 At seeding 4 After seeding	6 How was this applied? [Refer to code list above]	7 How many acres in the selected field were treated in this application? Acres
	N Nitrogen	P ₂ O ₅ Phosphate	K ₂ O Potash	S Sulfur	Type of N Used					
	01	31	32	33	34	35	36	37	38	39
02	31	32	33	34	35	36	37	38	39	40 _____
03	31	32	33	34	35	36	37	38	39	40 _____



2 Ways to Record Nutrient or Fertilizer Applications:

- Percent Analysis – most common & preferred
 - A Complete Product

- Pounds of Actual Nutrients
 - Individual Ingredients Of A Complete Product



2 Ways to Record Nutrient or Fertilizer Applications:

- **Percent Analysis - A Complete Product**

- Urea 46-0-0
- 10-34-0
- MAP 11-52-0
- DAP 18-46-0

- **Pounds of Actual Nutrients - Individual Ingredients**

- Nitrogen
- Phosphorus
- Potassium
- Sulfur



It is written with numbers and dashes

- 26 - 5 - 10

N - P - K

- First number listed is Nitrogen
- Second number listed is Phosphorus
- Third number listed is Potassium
- If a Fourth number is present: 26 - 5 - 10 - 7 that is Sulfur



Numbers represent the Percentage

- 26-5-10
- For any given quantity of this fertilizer,
 - 26% of it will be Nitrogen
 - 5% of it will be Phosphorus
 - 10% of it will be Potassium
 - The remaining 59% will be carrier material



Percent Analysis Method

- 150 Pounds of 26-5-10:
 - $150 \text{ lbs.} \times 26\% = 39 \text{ pounds Nitrogen}$
 - $150 \text{ lbs.} \times 5\% = 8 \text{ pounds of Phosphorus}$
 - $150 \text{ lbs.} \times 10\% = 15 \text{ pounds of Potassium}$
 - The rest will be carrier material
 - $150 \text{ lbs.} \times 59\% = 88 \text{ pounds of carrier material}$



Peanut M&Ms



46%



54%



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Peanut M&Ms vs Urea



46%



54%



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Snickers



18%



46%



36%



Snickers vs DAP



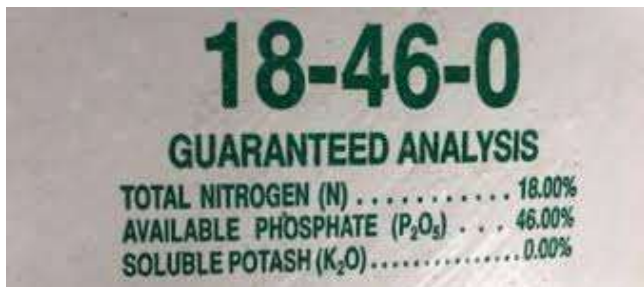
18%



46%



36%



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Sprite



10%



34%



56%



Sprite vs 10-34-0



10%



34%



56%

10-34-0	
Guaranteed Analysis	
Total Nitrogen (N).....	10%
Available Phosphate (P ₂ O ₅).....	34%



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Lemonade



32%



68%



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Lemonade vs UAN 32-0-0



32%



68%

32%

UAN SOLUTION



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Percent Analysis

LINE	2 Materials Used [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Nutrients or Fertilizers in Respondent Booklet] [Refer to nitrogen list above for type of nitrogen used.]					3 What quantity was applied per acre? [Leave this column blank if actual nutrients were reported]	4 [Enter material code] 1 Pounds 12 Gallons [Redacted] nutrients
	N Nitrogen	P ₂ O ₅ Phosphate	K ₂ O Potash	S Sulfur	Type of N Used		
01	31 11	32 52	33	34	35 4	36 85	37 1
02	31 10	32 34	33	34	35 4	36 5	37 12
03	31	32	33 60	34	35	36 120	37 1



Percent Analysis Method

- 10-34-0 11-52-0 18-46-0 28-0-0 46-0-0 82-0-0 0-0-60
- If you add the N-P-K together, it will not be greater than 85
 - If Sulfur is included in the mix, then this does not hold true.



Pounds of Actual Nutrients

L I N E	2 Materials Used [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Nutrients or Fertilizers in Respondent Booklet] [Refer to nitrogen list above for type of nitrogen used.]					3 What quantity was applied per acre? [Leave this column blank if actual nutrients were reported]	4 [Enter material code] 19 Pounds of actual nutrients
	N Nitrogen	P ₂ O ₅ Phosphate	K ₂ O Potash	S Sulfur	Type of N Used		
	01	31 10	32 44	33 72	34	35 4	36
02	31	32	33	34	35	36	37
03	31	32	33	34	35	36	37



2 Ways to Record Nutrient or Fertilizer Applications:

- **Percent Analysis – most common & preferred**

- 5 gallons of 10-34-0
- 85 pounds of 11-52-0
- 120 pounds of 0-0-60

Complete Product

- **Pounds of Actual Nutrients**

- 10 pounds of Nitrogen
- 44 pounds of Phosphorus
- 72 pounds of Potassium

Ingredients of a Product



2 Ways to Record Nutrient or Fertilizer Applications:

- **Percent Analysis – most common & preferred**

- 5 gallons of 10-34-0
- 85 pounds of 11-52-0
- 120 pounds of 0-0-60
- **Column 3 must be complete**
- **Column 4 must be coded 1 or 12**

- **Pounds of Actual Nutrients**

- 10 pounds of Nitrogen
- 44 pounds of Phosphorus
- 72 pounds of potassium
- **Column 3 must be blank**
- **Column 4 must be coded 19**

3	4
What quantity was applied per acre?	[Enter material code]
[Leave this column blank if actual nutrients were reported]	1 Pounds 12 Gallons 13 Quarts 19 Pounds of actual nutrients
36	37

Types of Nitrogen Used



Nitrogen Codes for Column 2					
1 Anhydrous ammonia		6 Ammonia sulfate			
2 Nitrogen solution (UAN)		7 Potassium nitrate, magnesium nitrate, and calcium nitrate			
3 Urea		8 Other nitrogen fertilizer material [specify: _____]			
4 Ammonium nitrate					
5 Sodium nitrate					

L I N E	2 Materials Used [Enter percentage analysis or actual pounds of plant nutrients applied per acre.] [Show Common Nutrients or Fertilizers in Respondent Booklet] [Refer to nitrogen list above for type of nitrogen used.]					
	N Nitrogen	P ₂ O ₅ Phosphate	K ₂ O Potash	S Sulfur	Type of N Used	
	01	31	32	33	34	35



Thank You!

- Be sure to follow all skips
- Answer YES=1 NO=3



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