

Nutrient Removal Calculator

As crops are harvested, the soil can become depleted of vital nutrients. Find out how much you should be replacing.

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NUTRIENT REMOVAL CALCULATOR

UNITS: Imperial Metric

1 CHOOSE YOUR CROP:

 Soybean |  Corn |  Wheat

2 YIELD:

INCLUDE ECONOMIC IMPACT:

3 N SOURCE: ?

4 N COST: ?

5 P SOURCE: ?

6 P COST: ?

7 K SOURCE: ?

8 K COST: ?

CALCULATE

Learning How To Use This Tool



If you don't know the current nutrient prices in your area, consult your local retail agronomist.

1) Crop selector:

We have assembled crop removal data for a large number of crops from scientific publications from around the world. →

Economic impact button:

If you would like to know the value of the crop nutrients being removed, click this feature on. By doing so, you will be asked to select fertilizer sources and costs. →

4) N cost:

Enter a cost for that product, you can use a reported value or a local value. →

6) P cost:

Enter a cost for that product, you can use a reported value or a local value. →

6) K cost:

Enter a cost for that product, you can use a reported value or a local value. →

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NUTRIENT REMOVAL CALCULATOR

UNITS: Imperial Metric

1 CHOOSE YOUR CROP:

Soybean | Corn | Wheat

2 YIELD: Enter #

INCLUDE ECONOMIC IMPACT:

3 N SOURCE: Select Source

4 N COST: Enter # \$/ton

5 P SOURCE: Select Source

6 P COST: Enter # \$/ton

7 K SOURCE: Select Source

8 K COST: Enter # \$/ton

CALCULATE

Unit Selection:

Your unit preference will allow you to enter crop yields and nutrient costs in units native to either the imperial or metric systems. ←

2) Yield:

Enter a potential yield based upon previous experience or what your crop actually yielded. ←

3) N source selector:

Select an N source that you are likely to use to fertilize your next crop. ←

5) P source selector:

Select a P source that you are likely to use to fertilize your next crop. ←

7) K source selector:

Select a K source that you are likely to use to fertilize your next crop. ←

Learning How to Use the Tool

You can show the impact of crop removal on soil test level using the following general rules of thumb.

- For every 20 pounds of P removed without fertilization soil test level will decrease by 1 ppm.
- For every 6 pounds of K removed without fertilization soil test level will decrease by 1 ppm.
- Incorporating these general rules of thumb can aid your discussion by showing a user that skipping fertilization will decrease soil test level for subsequent crops.



Going Beyond The Basics



Going Beyond the Basics

Scenario 1

We are providing two scenarios to demonstrate how the Nutrient Removal Calculator works.

The screenshot shows the 'NUTRIENT REMOVAL CALCULATOR' app interface. At the top, there is a 'TUTORIAL' button and a close button. Below the title is a green circular logo with a plant icon. The 'UNITS' section has 'Imperial' selected with a radio button. Step 1, 'CHOOSE YOUR CROP:', features three options: 'Soybean' (selected), 'Corn', and 'Wheat'. Step 2, 'YIELD:', is set to 75. The 'INCLUDE ECONOMIC IMPACT:' checkbox is checked. Steps 3-8 are: 'N SOURCE: Urea', 'N COST: 450', 'P SOURCE: DAP (18-46-0)', 'P COST: 600', 'K SOURCE: KCI (0-0-60)', and 'K COST: 550'. A green 'CALCULATE' button is at the bottom.

Step	Field	Value
1	CHOOSE YOUR CROP:	Soybean
2	YIELD:	75
	INCLUDE ECONOMIC IMPACT:	Checked
3	N SOURCE:	Urea
4	N COST:	450
5	P SOURCE:	DAP (18-46-0)
6	P COST:	600
7	K SOURCE:	KCI (0-0-60)
8	K COST:	550

Going Beyond the Basics

Scenario 1

Click “Calculate”.

The results reveal that 285 pounds of N was removed with a value of \$0 (because legumes replace their own nitrogen naturally, no dollar amount will be attributed to the nitrogen’s removal), 63 lbs of P_2O_5 /acre were removed with a value of \$29.03, and 98 lbs of K_2O /acre were removed with a value of \$44.69.



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NUTRIENT REMOVAL CALCULATOR

CHANGE VALUES | EMAIL RESULTS

 | **75 bushels**

NUTRIENT	lbs/acre	\$/acre
N	285	\$0.00*
P_2O_5	63	\$29.03
K_2O	98	\$44.69

* Nitrogen removed with this crop likely came from the plant's ability to fix nitrogen from the atmosphere.

How will this theoretically impact subsequent soil test levels?

Soil test P level would decrease by 3 ppm and soil test K level would decrease by 16 ppm (remember the rules of thumb).

Going Beyond the Basics

Scenario 2

We are providing two scenarios to demonstrate how the Nutrient Removal Calculator works.

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NUTRIENT REMOVAL CALCULATOR

UNITS: Imperial Metric

1 CHOOSE YOUR CROP:

 Soybean |  Corn |  Wheat

2 YIELD: 80

INCLUDE ECONOMIC IMPACT:

3 N SOURCE: Urea

4 N COST: 450

5 P SOURCE: DAP (18-46-0)

6 P COST: 600

7 K SOURCE: KCl (0-0-60)

8 K COST: 550

CALCULATE

Going Beyond the Basics

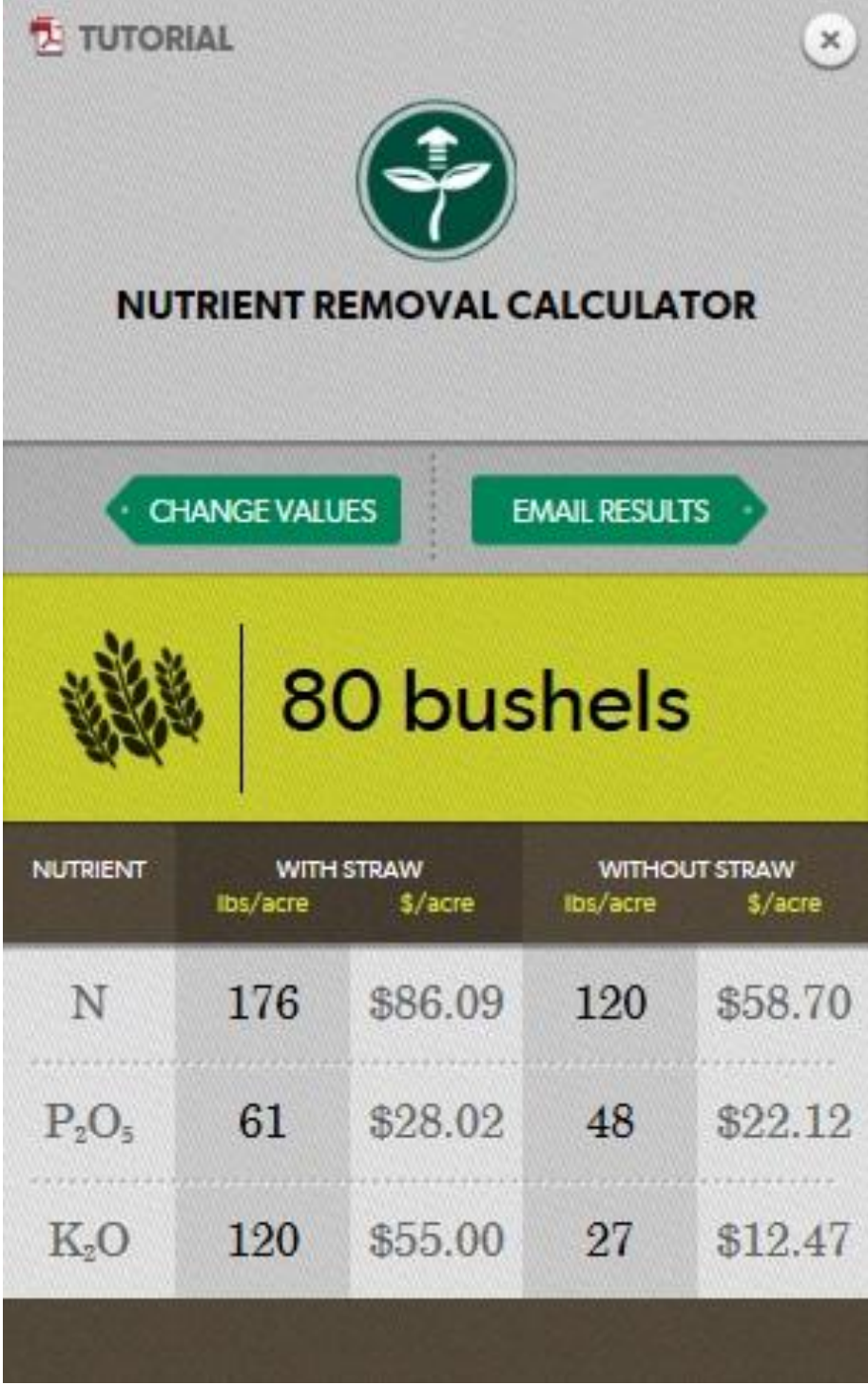
Scenario 2

Click “Calculate”.


The results reveal that 120 lbs/acre of N was removed with a value of \$58.70. With straw, 176 lbs/acre of N was removed with a value of \$86.09.

48 lbs/acre of P_2O_5 was removed with a value of \$22.12. With straw, 61 lbs/acre of P_2O_5 was removed with a value of \$28.02.

27 lbs/acre of K_2O was removed with a value of \$12.47. With straw, 120 lbs/acre of K_2O was removed with a value of \$55.00.




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NUTRIENT REMOVAL CALCULATOR

CHANGE VALUES | **EMAIL RESULTS**

 | **80 bushels**

NUTRIENT	WITH STRAW		WITHOUT STRAW	
	lbs/acre	\$/acre	lbs/acre	\$/acre
N	176	\$86.09	120	\$58.70
P_2O_5	61	\$28.02	48	\$22.12
K_2O	120	\$55.00	27	\$12.47

How will this theoretically impact subsequent soil test levels?

If only grain was removed, soil test P level would decrease by 2.5 ppm and soil test K level would decrease by 4 ppm (remember the rules of thumb).

If grain and straw were removed, soil test P level would decrease by 3 ppm and soil test K level would decrease by 20 ppm.