



Residue Breakdown Program

RESIDUE BREAKDOWN PRODUCTS



Practices that promote the rapid breakdown of residues ensure that the nutrients contained in the residues are re-released into the soil in time for next year's crop.

A great option for promoting faster breakdown of crop residues is by utilizing biological products in the fall directly after harvest. These can be in the form of live biologicals that are applied to the soil, and in the form of biological-stimulating products that provide energy sources for the native microbes to work more efficiently.

Our recommendations for residue breakdown products include **RemeD8® AG-WSP PLUS** and **Routed Elements™ Crop Charge**. These are great companion products for a fall burndown pass to promote quick and efficient residue breakdown.

RemeD8® AG-WSP PLUS is a biological product that contains 4 robust *Bacillus* species and a *Trichoderma* species at 13.3 billion CFU (colony forming units)/g. These microbes provide enhanced residue breakdown, nutrient cycling, and ultimately increased nutrient availability for next year's crop.

Routed Elements™ Crop Charge is comprised of proteins, simple and complex sugars, and sequestering agents. These components promote beneficial microbial activity by providing an energy source to the soil microbes and ensuring that the released nutrients remain stable in the soil and in plant-available forms.

Managing the residue from a high yielding crop is a crucial first step in maximizing yield potential for the following year.

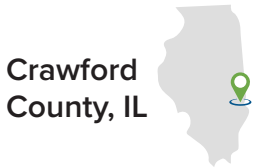


Comments from the Field

- "More favorable planting conditions in the spring from reduced residue."
- "Quicker, more uniform crop emergence."
- "Improved crop vigor due to increased nutrient availability"

TRIAL DATA

SOYBEAN



Crawford County, IL

TIMING: Previous Fall - Post Harvest	
Treatments	Yield bu./ac.
RemeD8 AG-WSP PLUS .5 oz/ac Crop Charge 8 oz/ac	85.1
Competitor Residue Breakdown Product 1 qt/ac	84.0

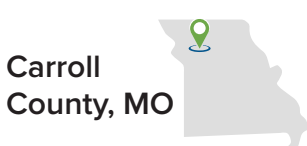


+1.1 bu./ac.
increase in soybean

KEY TAKEAWAYS

The Innova Residue Breakdown Program led to a **1.1 bu./ac. increase** over the competitor residue breakdown program. Managing the previous year's corn residue is a vital first step in ensuring the following year's soybean crop gets off to a strong start. The Innova Residue Breakdown Program provides biologicals along with microbial energy sources to promote quick and efficient residue breakdown and nutrient cycling.

SOYBEAN



Carroll County, MO

TIMING: Previous Fall - Post Harvest	
Treatments	Yield bu./ac.
RemeD8 AG-WSP PLUS .5 oz/ac Crop Charge 8 oz/ac	86.6
Competitor Residue Breakdown Product 1 gal/ac	85.5



+1.1 bu./ac.
increase in soybean

KEY TAKEAWAYS

The Innova Residue Breakdown Program led to a positive yield increase and ROI compared to the competitor products. This application promotes rapid breakdown of crop residues and ensures that the nutrients contained in the residues are re-released in time for the following year's crop.

CORN

NUTRIENT REMOVAL

(lbs./ac.)

200 bu./ac.

Nutrient	Corn Total Removal	Corn Grain	Corn Residue	\$/ac. Value Residue
N	224	134	90	\$43.20
P ₂ O ₅	102	70	32	\$26.56
K ₂ O	270	50	220	\$70.40
S	30	16	14	\$8.68

225 bu./ac.

Nutrient	Corn Total Removal	Corn Grain	Corn Residue	\$/ac. Value Residue
N	252.0	150.8	101.3	\$48.60
P ₂ O ₅	114.8	78.8	36.0	\$29.88
K ₂ O	303.8	56.3	247.5	\$79.20
S	33.8	18.0	15.8	\$9.77

250 bu./ac.

Nutrient	Corn Total Removal	Corn Grain	Corn Residue	\$/ac. Value Residue
N	280	167.5	112.5	\$54.00
P ₂ O ₅	127.5	87.5	40	\$33.20
K ₂ O	337.5	62.5	275	\$88.00
S	37.5	20	17.5	\$10.85

SOYBEAN

NUTRIENT REMOVAL

(lbs./ac.)

60 bu./ac.

Nutrient	Soybean Total Removal	Soybean Grain	Soybean Residue	\$/ac. Value Residue
N	261.0	195.0	66.0	\$31.68
P ₂ O ₅	58.2	43.8	14.4	\$11.95
K ₂ O	132.0	72.0	60.0	\$19.20
S	21.0	10.8	10.2	\$6.32

65 bu./ac.

Nutrient	Soybean Total Removal	Soybean Grain	Soybean Residue	\$/ac. Value Residue
N	282.8	211.3	71.5	\$34.32
P ₂ O ₅	63.1	47.5	15.6	\$12.95
K ₂ O	143.0	78.0	65.0	\$20.80
S	22.8	11.7	11.1	\$6.85

70 bu./ac.

Nutrient	Soybean Total Removal	Soybean Grain	Soybean Residue	\$/ac. Value Residue
N	304.5	227.5	77.0	\$36.96
P ₂ O ₅	67.9	51.1	16.8	\$13.94
K ₂ O	154	84.0	70.0	\$22.40
S	24.5	12.6	11.9	\$7.38