Getting Back To Basics With Residue Management

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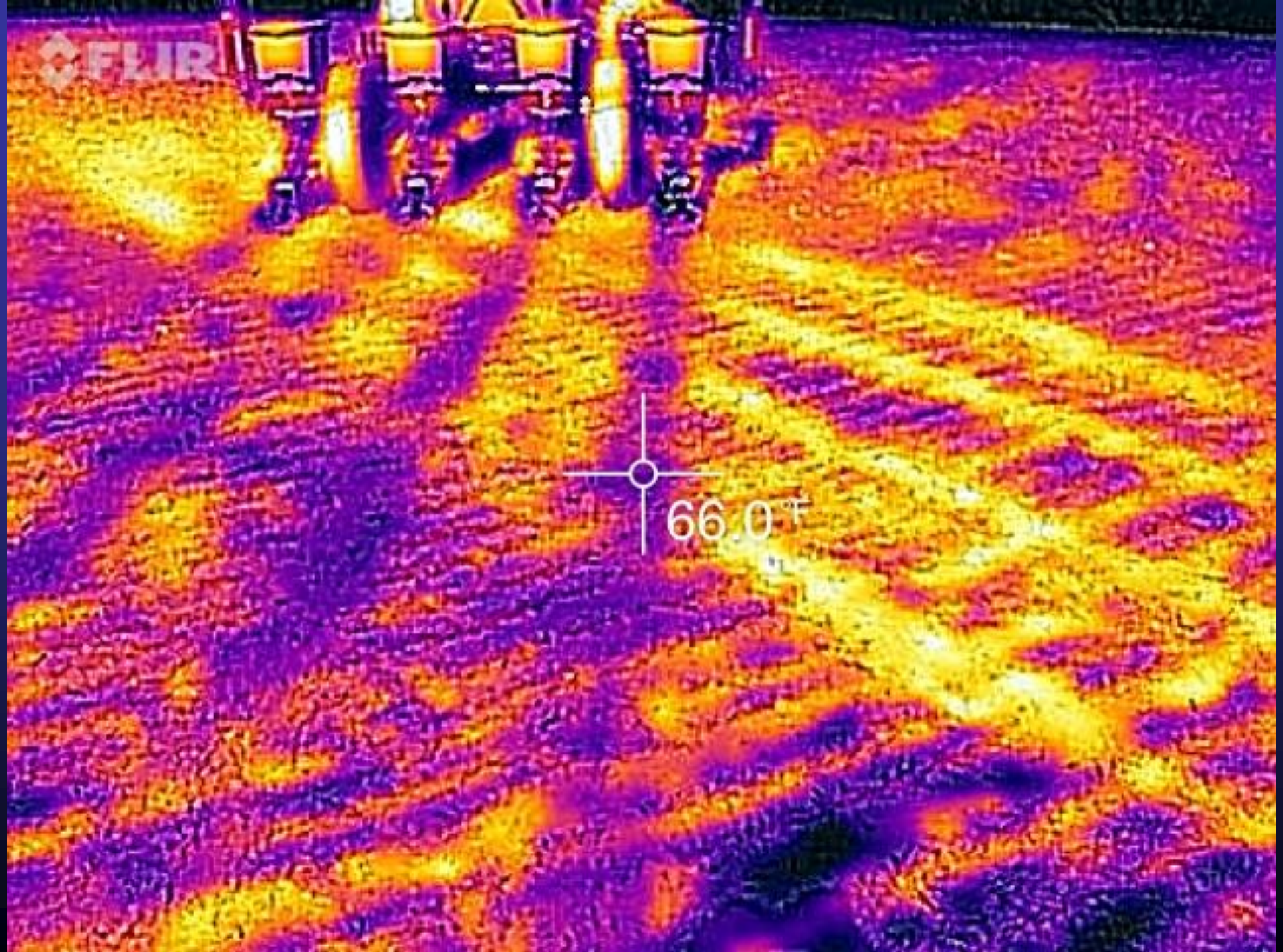
S7
800


FLIR
66.0°F


74.8F
LF
67.4F
RT
ON
MAX
MIN
TAYLOR

Soybean Produce Around 40 lb. Of Dry Matter Per Bushel Of Yield.

Therefore 60-80 Bu./Ac Soybean Produce Around 2400 – 3200 lb. Per Acre Of Residue.

(Source Iowa State University)

Soybean Yields Are Increasing Around 1 bu./Acre/Year.

Soybean Residue Is Increasing Around 40 lb./Acre/Year (Dry Matter).

(Source Iowa State University)

Corn Produces Around 50 lb. Of Dry Matter Per Bushel Of Yield.

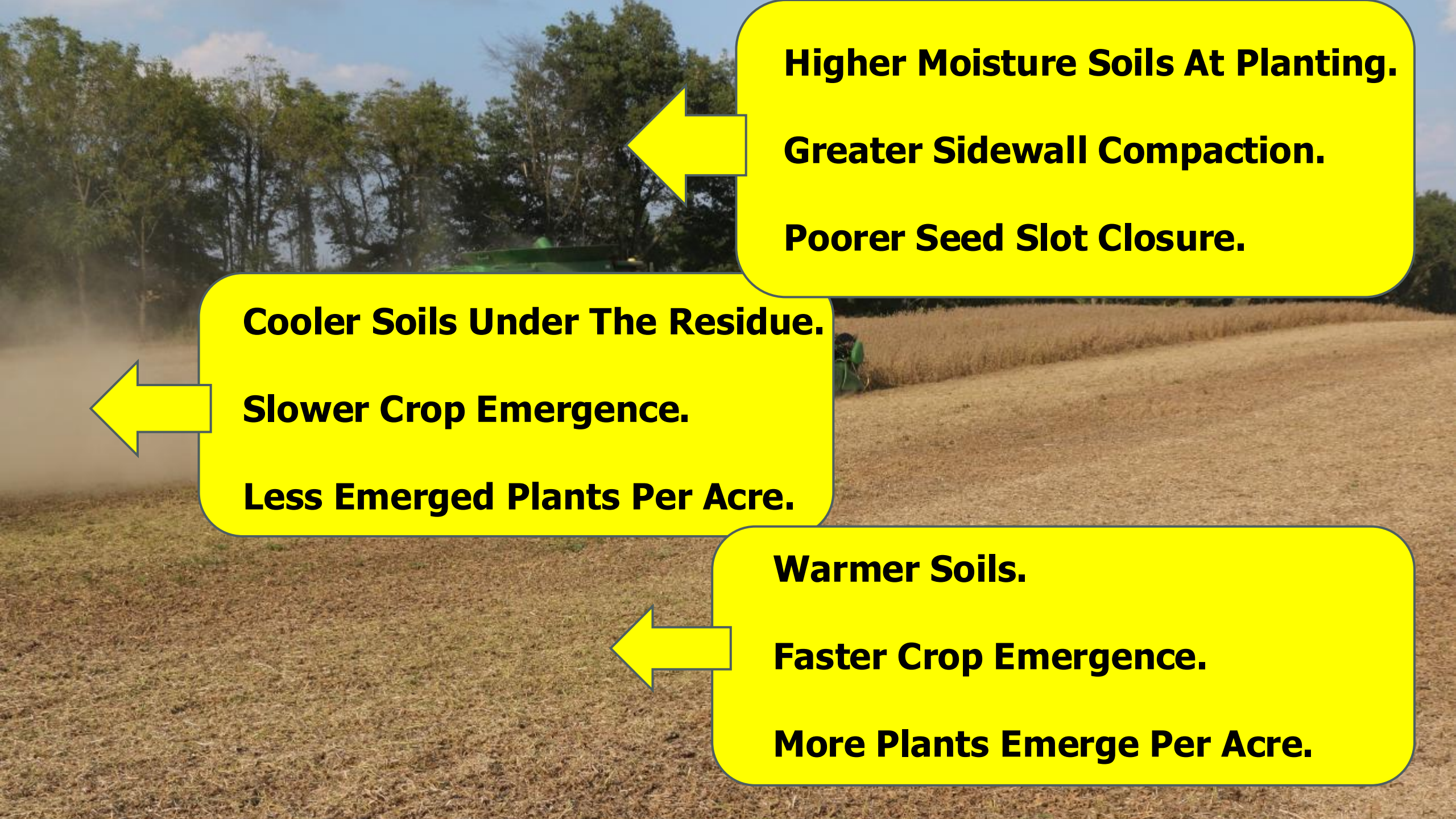
Therefore 200-250 Bu./Ac Corn Produces Around 10,000-12,500 lb. Per Acre Of Residue.

(Source Iowa State University)

Corn Yields Are Increasing Around 1.6 bu./Acre/Year.

Corn Residue Is Increasing Around 80 lb./Acre/Year (Dry Matter).

(Source Iowa State University)


Higher Moisture Soils At Planting.
Greater Sidewall Compaction.
Poorer Seed Slot Closure.
Cooler Soils Under The Residue.
Slower Crop Emergence.
Less Emerged Plants Per Acre.
Warmer Soils.
Faster Crop Emergence.
More Plants Emerge Per Acre.

OTHER CHALLENGES

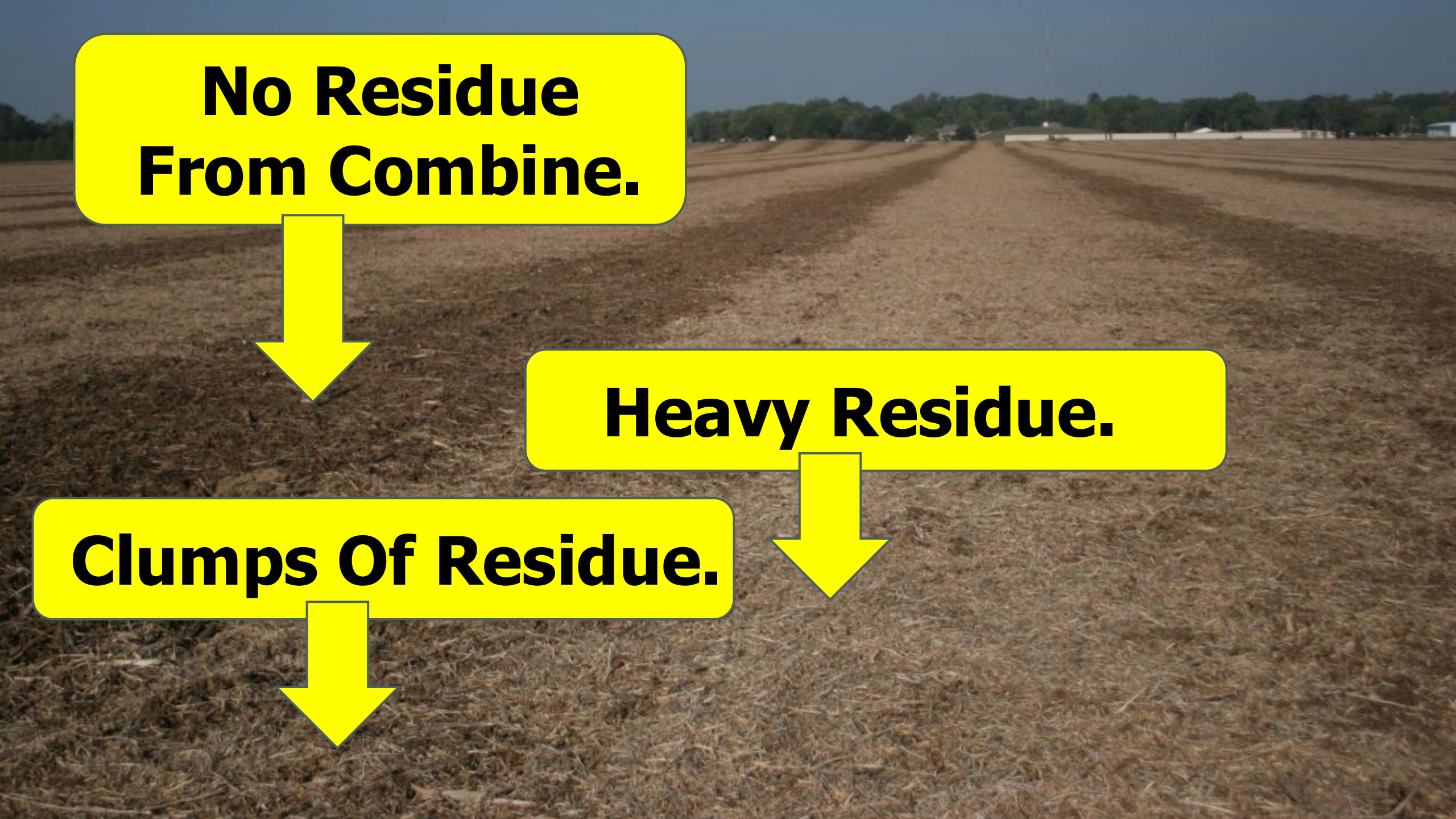
- Greater Seedling Disease Pressure In Heavy Residue (Especially When No-Tilling Corn Back Into Corn Residue).

- Shallower Seeding Depths In Heavy Residue And More Hair Pinning? (Winter Wheat Survival Issues)

- Cooler Soils Under Heavy Residue Reduce Nutrient Availability (Immobilizes Nutrients - Especially P).

- Plugging Of Seeding Equipment, Especially In High Residue Areas.

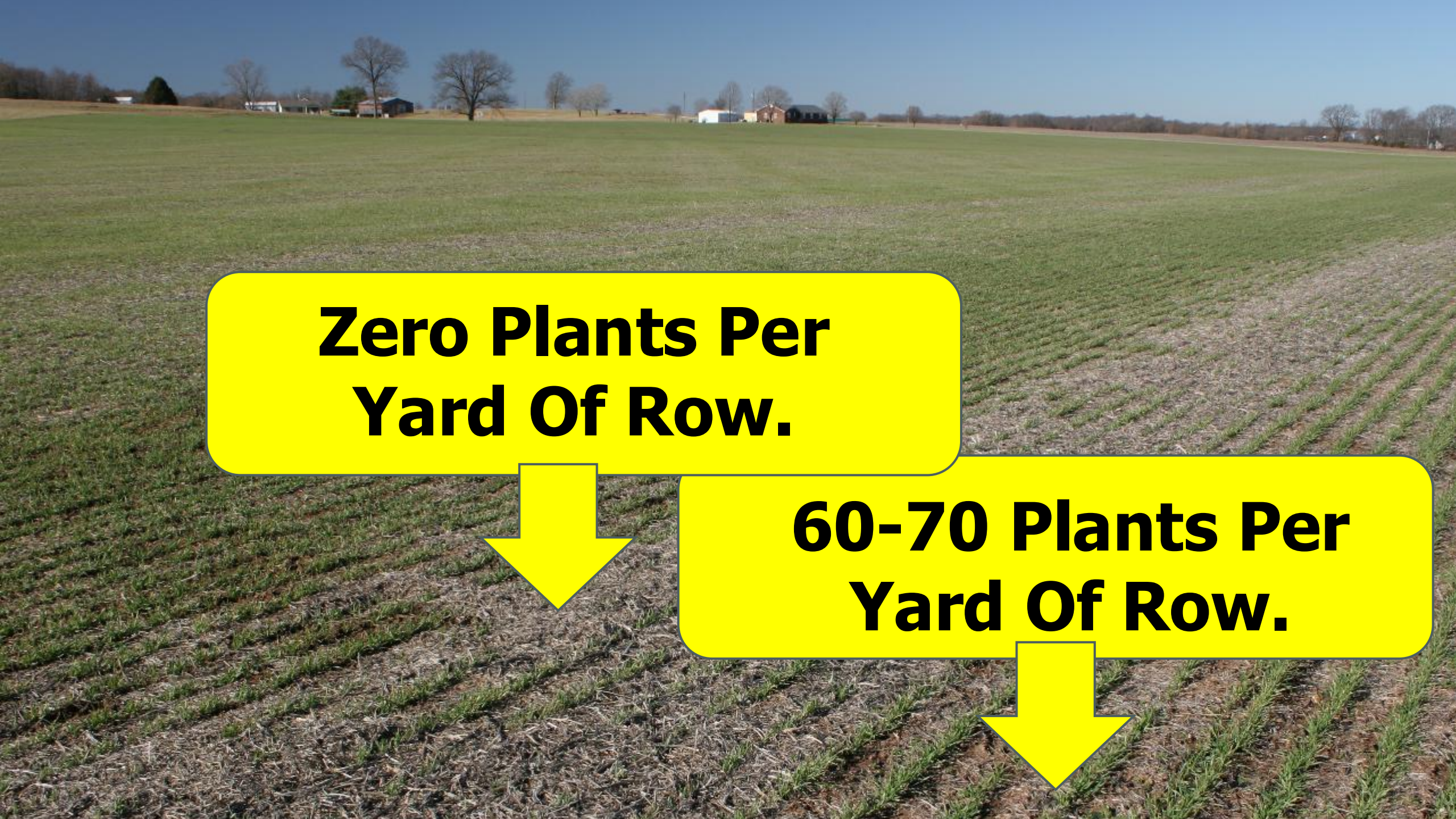
- **LESS PROFIT PER ACRE**


No Residue From Combine.
Heavy Residue.
Clumps Of Residue.

Spread Width Is Highly Influenced By:

- Chopper Type/Design.
- Chopper Rotor Speed.
- Stationary Knife And Rotary Knife Condition.
- Crop, Crop Moisture And Crop Volume.
- Uniformity Of Crop Feed Into Chopper.
- Wind Speed/Direction (Relative To Combine Direction).
- Rotary Tailboard ?


Lower Down
Pressure Required
Higher Down
Pressure Required


Zero Plants Per Yard Of Row.
60-70 Plants Per Yard Of Row.


1 1,303 1,303 1
Seeding Uniformity
94.1 %
70.0 100
3 82.8 99.5 8
Down Force
Margin 42.3 lbs
Ground Contact 99.2 %
1 100 154 13
450
400
350
300
250
200
150
100
50.0
0.0
-50
mapbox
Down For
Hydraulic
1,531
Good Ric
Productivity
Seeding
55.0 lbs/ac

Soybean Residue

Above Ground Nutrient Content (%)

	N	P	K	S	Ca	Mg
Wheat	**0.63**	**0.05**	**1.42**	**0.19**	**0.32**	**0.12**
Corn	**1.06**	**0.10**	**1.45**	**0.17**	**0.57**	**0.40**
Soybean	**0.83**	**0.06**	**0.56**	**0.26**	**1.59**	**0.92**
Sorghum	**0.83**	**0.13**	**1.20**	**0.15**	**0.52**	**0.28**

Source – Canadian tables of feed composition, 3rd revision 1982

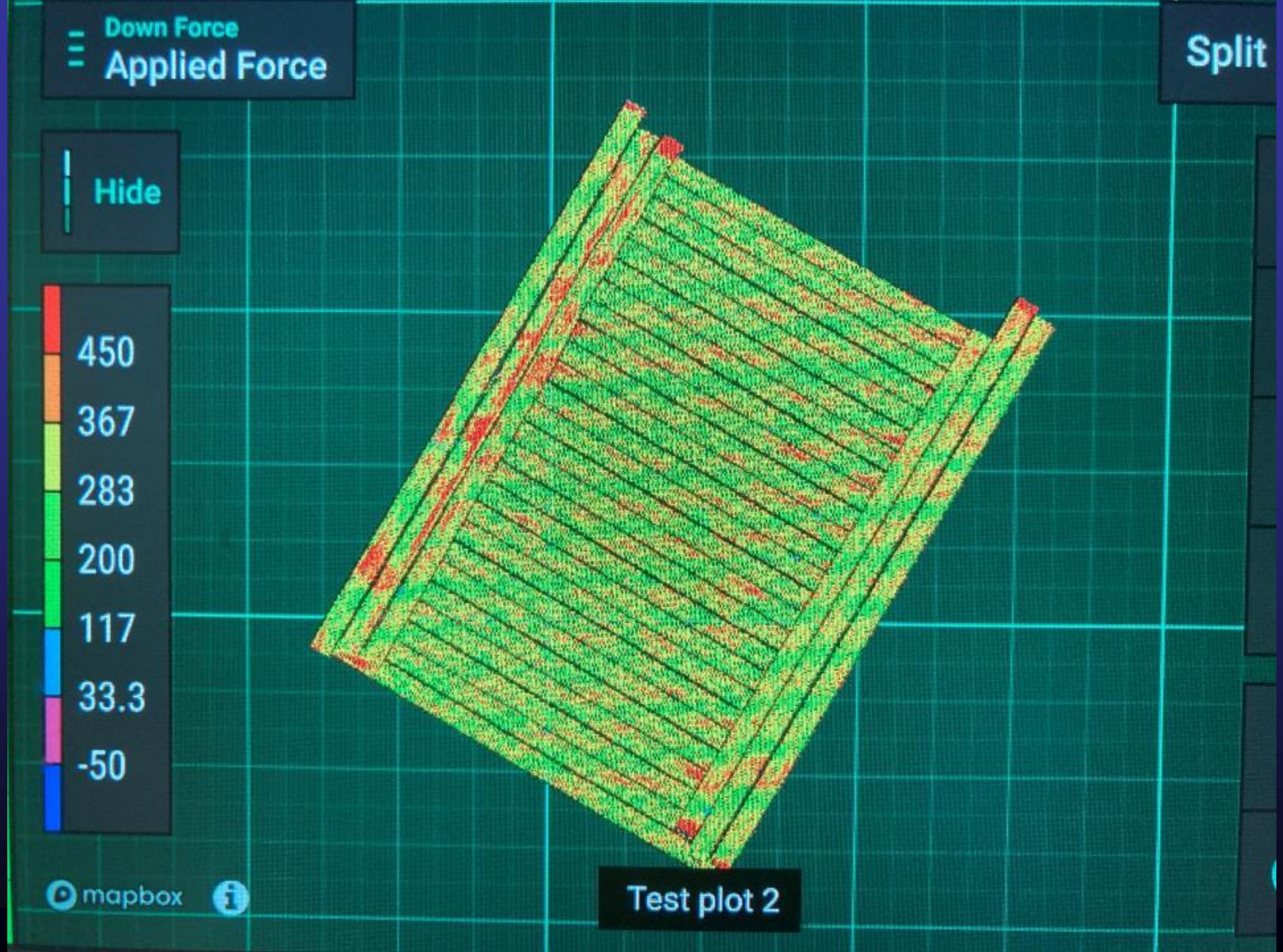
Soybean Residue - Nutrient Example

- If soybean produce 40 lb of residue per bushel and the residue contains 0.83% Nitrogen, a 60-80 bu./Ac. crop produces around 20-27 lb./Ac. of N in the residue.

- BUT, If some areas receive no residue and some receive 2X, that can take soil N levels from 0 - 54 lb./Ac.

12 Row Head & Steel Tailboard


CASE IH


Down Force
Applied Force
Split
Hide
450
367
283
200
117
33.3
-50
mapbox
Test plot 2

What Can Be Done To Improve Residue Distribution?

1. Take The Time To Make Adjustments.

2. Limit The Header Width To The Combines Ability To Spread Residue (Uniformly) Over.

3. Raise The Tailboard And Adjust Vanes (if equipped with tailboard)


IMPORTANT

4. Make Sure Stationary Knives And Rotary Knives Are All Sharp.

5. Make Sure Residue Is Fed Evenly Into The Chopper.

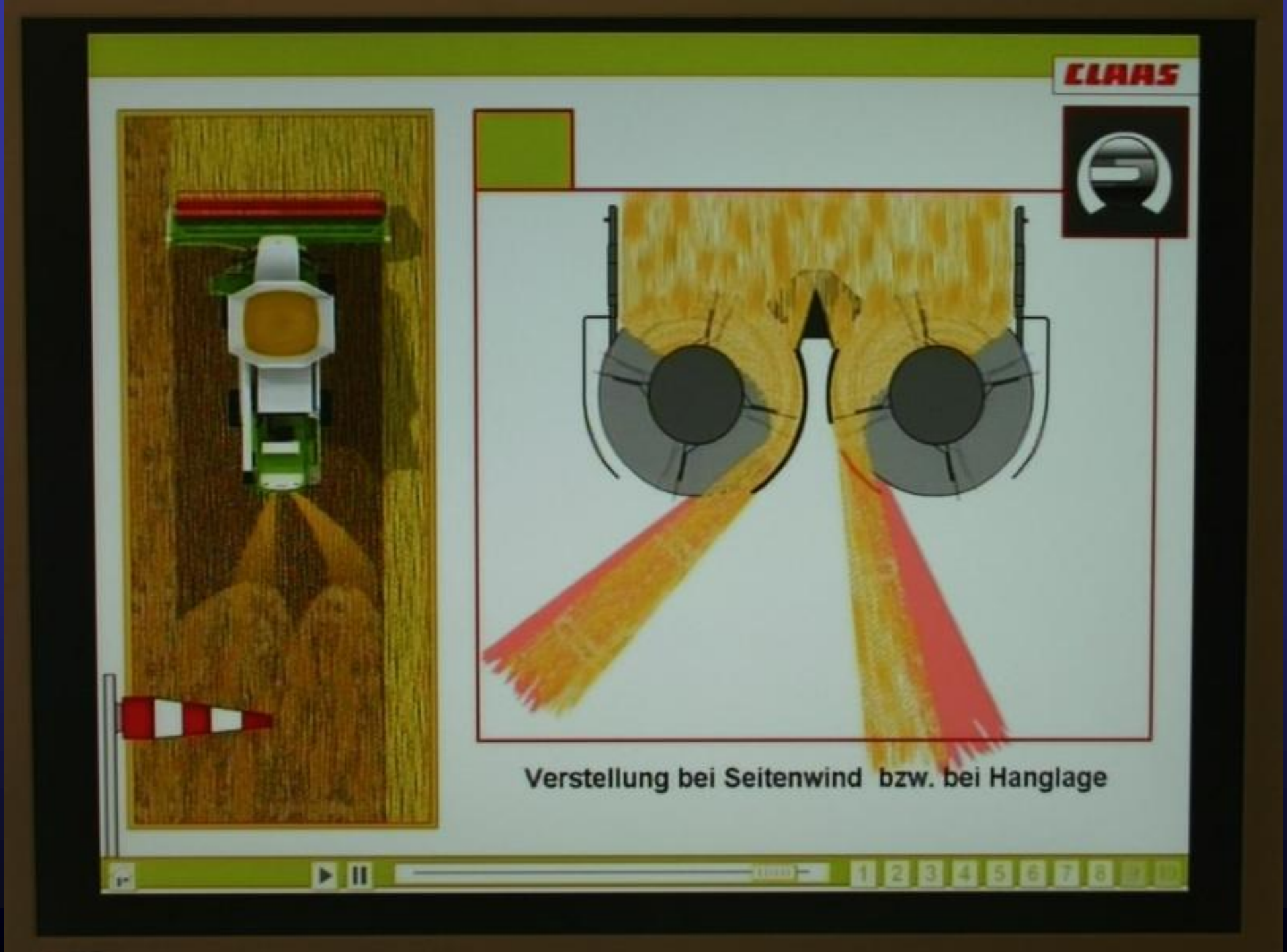
6. Update to Rotary Spreaders Behind The Chopper.


CASE IH


CASE IH


CASE IH


CLAAS
CLAAS


CLAAS
Verstellung bei Seitenwind bzw. bei Hanglage