



Relay Cropping

Cereal Rye → Soybeans

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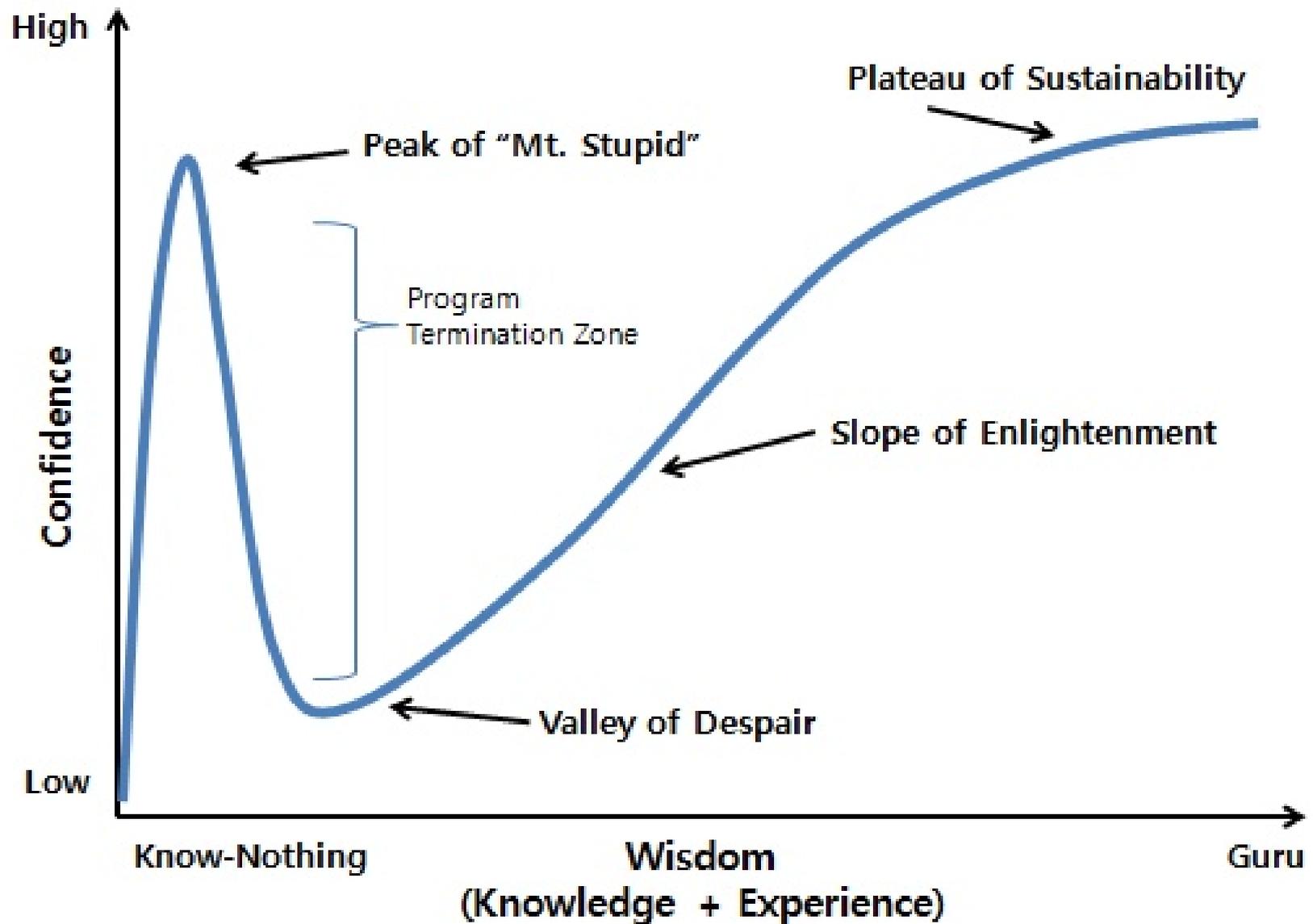
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OUR OPERATION:



- Multi-Generation Family Farm
- Operate ~1400 acres
- Cash Crops: Corn, Soybeans & Rye
- 30+ years NoTill
- Cover Crops: Cereal Rye & Diverse Mixes
- Livestock:
 - CAFO Swine.
 - GrassFed Cattle
 - Direct Marketing Beef

Dunning-Kruger Effect



LESSONS LEARNED FROM OTHERS:

Cereal Seeding Rate: Lower seeding rates will be easier to maintain soybean yields.

Target: 40-50 lbs
(depending on seeding date)

Soybean Maturity: Choose a maturity on the upper end of your normal maturity range.

Washington County: 3.4 – 3.8
Typical Range: 2.5 – 3.6

Cereal Harvest: Minimally invasive procedure to maintain soybean yields.

October 9, 2019

A green John Deere drill is pulling a CrustBuster trailer through a field of corn stalks at night. The trailer is white with orange accents and has the brand name 'CrustBuster' visible on its side. The field is filled with harvested corn stalks, and the scene is illuminated by artificial lights, likely from the machinery or nearby farm buildings.

-Drill Cereal Rye with intent to Relay Crop
*40 lbs/ac, 10" twin rows on 30" centers.
*Rye twins straddle corn stalks.

March 24, 2020



April 19, 2020



April 19, 2020



A blue planter is shown in a field, equipped with two large white UAN tanks. A person in a brown jacket and red hat stands on the planter. The scene is set at sunset, with a green tractor in the foreground. The planter has a 'Headline' and 'Kantion' label on its side. A 'DANGER' warning sign is visible on the right side of the planter. The field is green, and there are silos in the background.

April 21, 2020

-Plant Soybeans & Apply UAN w/ planter

*130k pop, 30" rows, 10gal UAN (32%)

April 21, 2020

UAN Application:

- *Totally Tubular System
- *Rotated bracket all the way out.
- *Added rubber hose to move application site closer to rye.



April 23, 2020



May 26, 2020



May 29, 2020



June 19, 2020



June 30, 2020



July 10, 2020



July 10, 2020

-Harvest Cereal Rye

*Rye Yield: 32.5 bpa



July 10, 2020



July 10, 2020



July 10, 2020



July 13, 2020



August 10, 2020



September 23, 2020

-Cleaning Rye Seed



September 27, 2020



October 2, 2020



October 14, 2020



TRIAL YIELD RESULTS: RYE

Rep1 Rye: 35.5 bu x \$5/bu = \$177.50/ac

Rep2 Rye: 31.8 bu x \$5/bu = \$159.00/ac

Rep3 Rye: 32.7 bu x \$5/bu = \$163.50/ac

Rep4 Rye: 30.5 bu x \$5/bu = \$152.50/ac

AVERAGE: 32.6 bu x \$5/bu = \$163.00/ac

TRIAL YIELD RESULTS: SOYBEANS

Rep1 Relay: 47.2 bu
Rep1 Mono: 57.1 bu

-9.9 bu x \$10/bu = \$-99/ac

Rep2 Mono: 57.3 bu
Rep2 Relay: 52.7 bu

-4.6 bu x \$10/bu = \$-46/ac

Rep3 Relay: 53.0 bu
Rep3 Mono: 55.8 bu

-2.8 bu x \$10/bu = \$-28/ac

Rep4 Mono: 60.3 bu
Rep4 Relay: 51.4 bu

-8.9 bu x \$10/bu = \$-89/ac

TRIAL AVERAGE

Relay: 51.1 bu
Mono: 57.6 bu

-6.5 bu x \$10/bu = \$-65/ac

EXPENSES

RELAY

10gal UAN: \$12

Rye Harvest: \$40

TOTAL: \$52

MONOCROP

Burndown: \$12

Post Spray: \$18

TOTAL: \$30

ASSUME: Land, Drilling, Planting, Seed, Soy Harvest,
Other Fertility, etc. is equal between practices.

PROFITABILITY SUMMARY

RELAY

Rye Revenue: \$163.00

Expense: -\$ 52.00

Soybean Hit: -\$ 65.00

MONOCROP

Rye Revenue: \$ 0.00

Expense: -\$ 30.00

Soybean Hit: -\$ 0.00

TOTAL: \$ 46.00

TOTAL: -\$ 30.00

Relay Wins by \$76/ac

** \$14/bu Soybeans = \$91/ac Hit → Relay Wins by \$50

IDEAS FOR FUTURE:

Soybean Population: Lower seeding rate to reduce lodging.

Soybean Row Spacing: Wider “tramlines” to allow for combine traffic without damaging soybeans.

Cereal Harvest: Cut Rye lower by using sickle blockers.
Allow more sunlight to hit lower nodes.
*This is necessary for short crops (wheat)
Remove outer duals from combine to eliminate pinch row effect/lodging.

QUESTIONS?



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