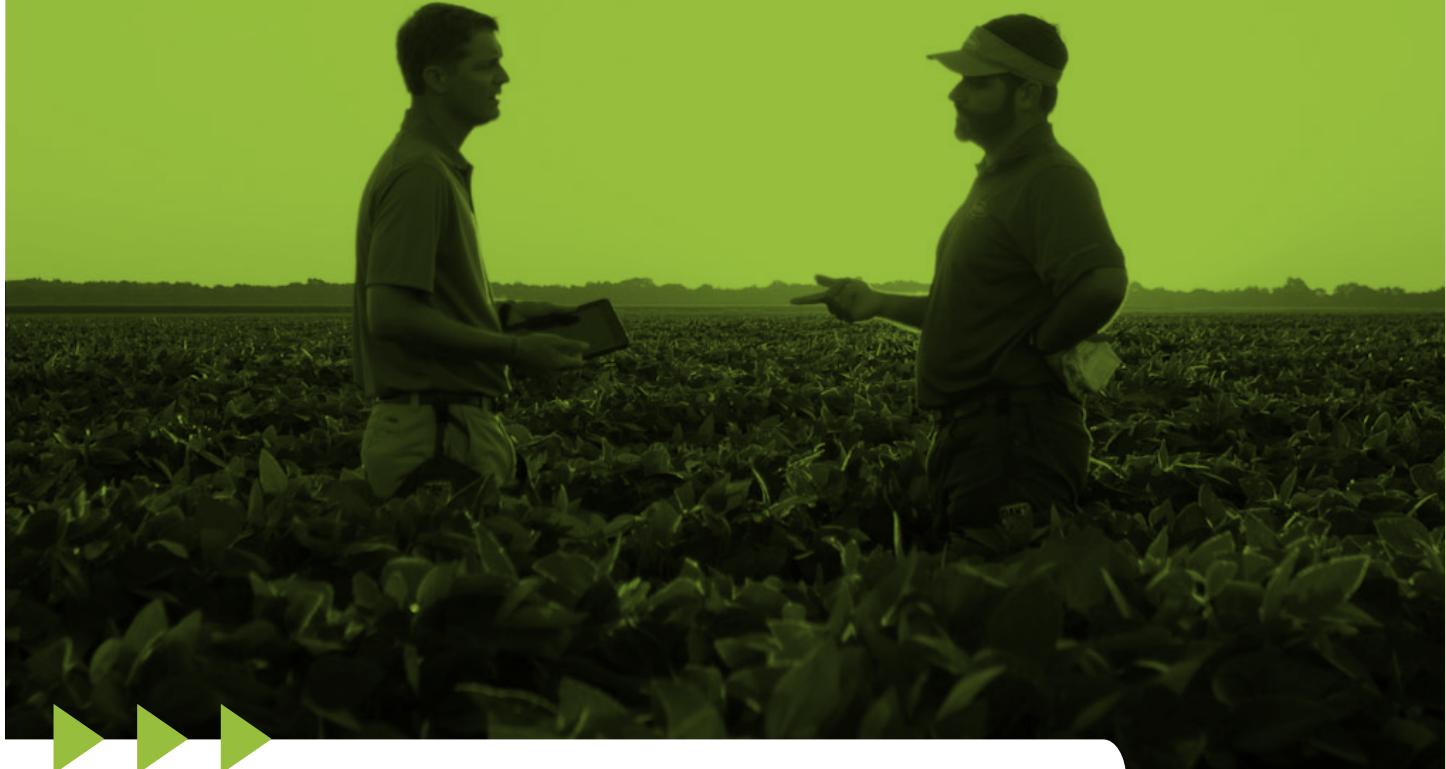


# INNO>ATION

## NEVER STOPS



## Innovation Never Stops

Episode 6 Classroom Materials



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# Welcome

Get ready to explore how science, technology and creativity are transforming agriculture every day. In this series, you'll learn how Helena Agri-Enterprises helps farmers grow healthier crops, protect the environment and feed the world using tools and ideas that are always evolving. In Episode 6, join us in South Dakota as we learn about Kenn and Seth Potter, a sixth-generation father-son-duo who share insights on adapting to evolving agricultural demands. This episode highlights the growing issue of herbicide-resistant weeds, the role of technology in improving crop yields and Helena's innovative solutions such as value-added herbicides like Antares® Complete and Empyros®.

Whether you're curious about ag careers, new farming techniques or how innovation impacts your community, this series will show you that in agriculture, innovation never stops—and neither do the people behind it.

Let's dive in and discover the future of farming together!



## Objectives

1. Students will **explore** how weed resistance develops and why it poses a significant challenge to crop yield.
2. Students will be **introduced** to innovative herbicides like Antares Complete and Empyros, and identify how these products provide early-season weed control and maintain residual activity
3. Students will **identify** major challenges faced by farmers today, including weed resistance, fluctuating markets, resource limitations and the need for constant innovation, and will **evaluate** strategies that help farmers overcome these challenges.

## Did You know?

1. The Potter family farm in South Dakota has been operating for six generations since 1874, after migrating from Ukraine and Austria.
2. The Potter family farming operation spans about 2,500 acres, primarily growing corn and soybeans in a 50/50 rotation.
3. Poor weed control can reduce crop yield by 2–3% at every growth stage, which adds up to significant losses.
4. Helena's Antares Complete combines three products in one jug for convenience and better weed control.
5. Additives like Grounded® help herbicides stay in the soil longer, improving effectiveness even after heavy rains.

## Vocabulary

**Active Ingredient-** The substances in a pesticide product that act to control the pests (e.g. weeds, insects, diseases, etc.).

**Antares Complete-** Antares Complete is a multipowered, pre-emergence soybean herbicide with an optimized combination of sulfentrazone, s-metolachlor and metribuzin with SolvX™ Formulation Technology. It provides tactical, long-lasting residual control of broadleaf weeds and grasses by combining three herbicide modes of action into one, balanced pre-mix. See Helena Corporate (Antares Complete) in Recommended Resources for more.

**Empyros-** Empyros is a flexible, broad-use corn herbicide with an exclusive pre-mix of two herbicides. It protects young corn with powerful knockdown and consistent, residual control of broadleaf weeds and troublesome grasses. Empyros broadens the weed control spectrum with the post-emergence strength of tolpyralate, a new Group 27 HPPD Inhibitor. See Helena Corporate (Empyros) in Recommended Resources for more.

**Grounded-** Grounded is a soil and spray deposition agent that improves the efficacy and adsorption of soil-applied herbicides, improves drift control and enhances application efficiency. With Grounded, you get proven quality and performance that can improve results from your herbicide inputs. See Helena Corporate (Grounded) in Recommended Resources for more.

**Herbicide-** Chemicals used to manipulate or control undesirable vegetation. [Herbicides | US EPA](#)

**Herbicide Resistance-** Herbicide resistance occurs when a weed is able to survive and reproduce after exposure to a dose of herbicide that is lethal to the wild type. [Herbicide resistance basics | CALS](#)

## Vocabulary

**Kochia-** Kochia is a rapidly growing, taprooted summer annual in the goosefoot family, forming tall, densely branched, pyramidal to round, soft-textured plants with gray-green, hairy leaves that often turn red or purple in fall. [Kochia | CALS](#)

**Product Manager-** The Product Manager is responsible for planning, organizing and managing the business objectives for our commercially branded products to achieve the division's short and long-term goals and overall company strategy. This position is with Helena Products Group (HPG). See Helena Careers in Recommended Resources for more.

**Sales Representative-** At Helena, our Sales Representatives serve on the front line between our business and our customers and are a key component to our success. Our Sales Representatives are tasked with building personal relationships with our customers to help them identify agronomic solutions and offer our high-quality products to help them enhance performance, increase productivity and maximize their return on investment. See Helena Careers in Recommended Resources for more.

**SolvX Formulation Technology-** SolvX Formulation Technology is a petroleum solvent-free, co-formulation system, optimized for specific active ingredients, to enhance overall performance and ease of use. See Helena Corporate (Formulation Technologies) in Recommended Resources for more.

**VAP (Value-Added Product)-** A formulation that enhances familiar chemistries through proprietary technologies and expert innovation. Helena's value-added products combine active ingredients in unique ways, incorporate patented chemistries and utilize advanced formulation techniques.

**Waterhemp-** Waterhemp is an upright, tall, summer annual herbaceous plant. It is native to the United States and has historically been found in waterways and floodplains. Today, waterhemp is often found in disturbed habitats, such as agricultural fields. [Weed Spotlight: Waterhemp | Purdue University Vegetable Crops Hotline](#)

## Discussion Questions

**1.** The episode mentions that “if you don’t control the weeds, they control your crops.” Why is weed resistance such a growing problem, and what strategies are being used to combat it?

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**2.** How does the timing of herbicide application affect its effectiveness and resistance management?

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**3.** What are the implications of having “no new herbicide products” in the marketplace for farmers and agronomists?

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**4.** The episode highlights products like Antares Complete and Empyros. How do value-added products improve herbicide performance and convenience for farmers?

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**5.** How does the multi-generational nature of farming influence decisions about adopting new technologies and practices?

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## Recommended Resources

Innovation Never Stops Series

[Innovation Never Stops - Helena Agri-Enterprises](#)

Helena Careers

[Helena Agri-Enterprises | Powerhouse of Agronomic Solutions](#)

Helena Corporate

[Helena Agri-Enterprises](#)

AGRIntelligence

[AGRIntelligence - Helena Agri-Enterprises](#)

Antares Complete

[Antares Complete - Helena Agri-Enterprises](#)

Crop Protection

[Crop Protection - Helena Agri-Enterprises](#)

Empyros

[Empyros - Helena Agri-Enterprises](#)

Formulation Technologies

[Formulation Technologies - Helena Agri-Enterprises](#)

Grounded

[Grounded - Helena Agri-Enterprises](#)

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## Notes



## Notes

