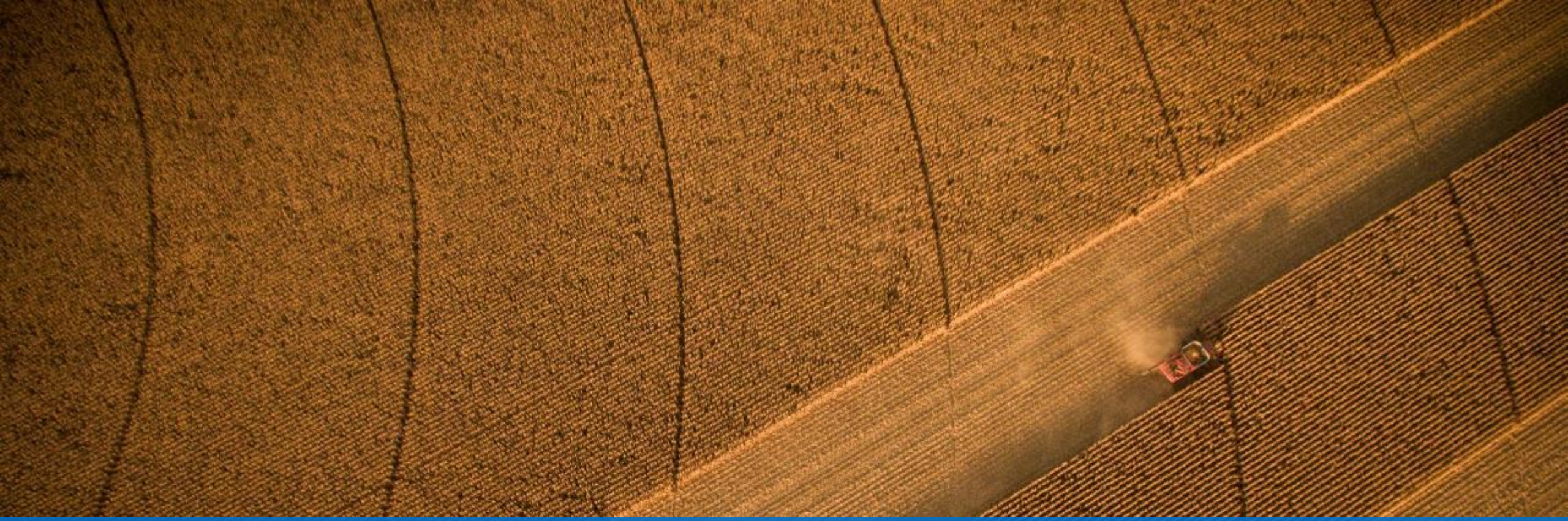


Innovation in Corn

VORCEED Enlist®: *A Next Generation Corn Trait Stack Solution*

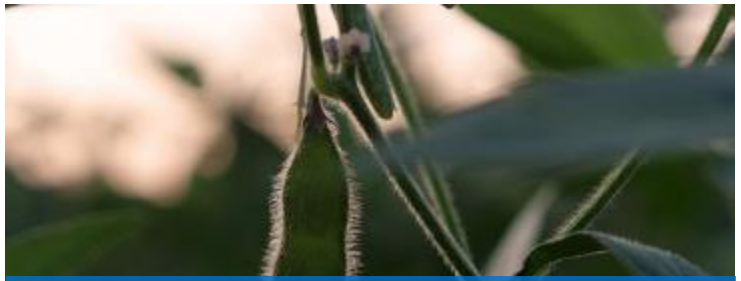
Douglas Nubel

NAICC 2025

Putting Farmers first in all we do...

Innovating to meet farmers' challenges

Insect Control:
20 to 40% of global crop production is lost to insects



Weed Control:
Weeds compete with crops for nutrients, moisture and sunlight and can limit productivity

Extreme Weather:
Changes in rainfall, temperature patterns, droughts and floods threaten crop production and food security

Disease:
Plant diseases cost the global economy around $220 billion annually

Food and feed:
Meeting demand for healthier, more nutritious foods produced in a sustainable way

Fuel:
Renewable, cleaner forms of fuel that help create energy independence and boost agricultural economies

Corn trait plan – North America

TODAY → 2035+

- Qrome® and AcreMax® Products
- PowerCore® Enlist® / PowerCore® Enlist® Refuge Advanced ® corn
- VORCEED Enlist® corn

Broad-spectrum, above- and below-ground insect control with 4 herbicide tolerances

Expanded offering in Corteva Agriscience germplasm

Traits:

Insect Control:

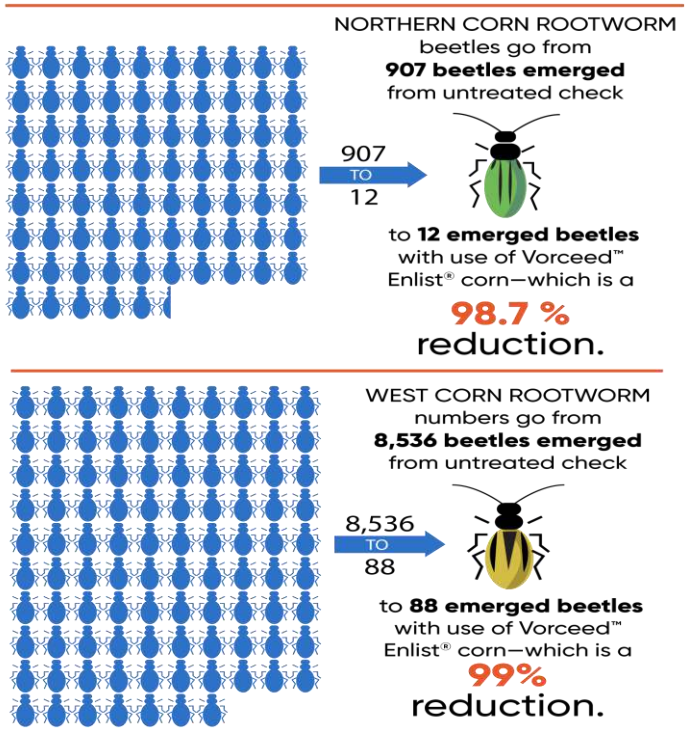
- Six insect protection modes of action – including an RNAi technology mode of action – to protect against above- and below-ground pests[1]

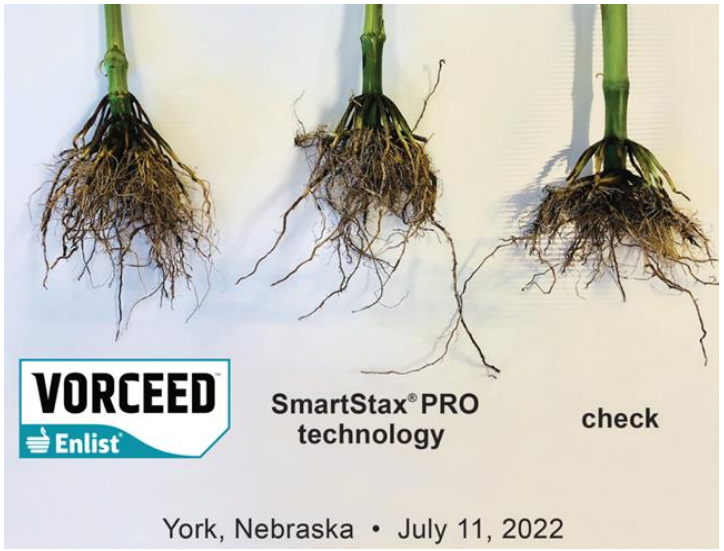
Herbicide Tolerance:

- Enlist® herbicides, glyphosate, glufosinate and FOP herbicides

[1] Current estimated project plans.

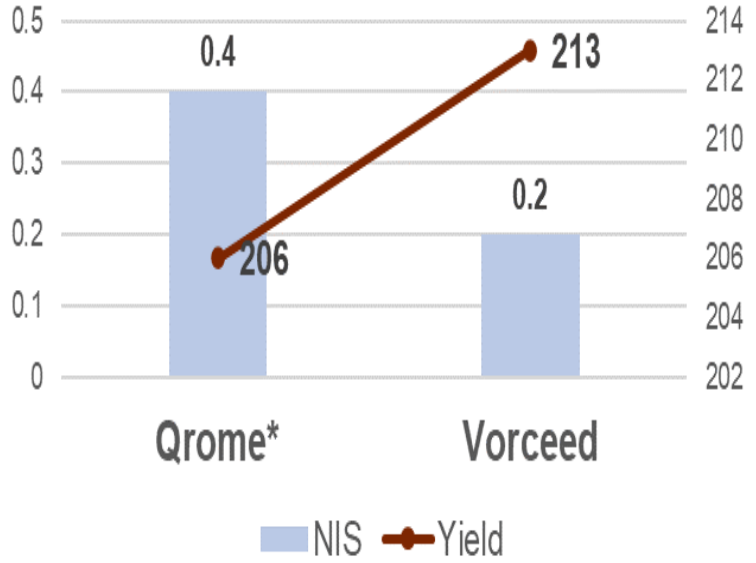
Vorceed™ Enlist® corn		SmartStax® PRO technology	
Event Name	Protein	Event Name	Protein
DP4114	Cry1F/Cry34/35/pat	DAS-59122-7	Cry34/35/pat
MON87411	Dvsnf7 (dsRNA)/ Cry3Bb1/CP4 EPSPS	MON87411	Dvsnf7 (dsRNA) / Cry3Bb1/ CP4 EPSPS
MON89034	Cry1A.105/Cry2Ab2	MON89034	Cry1A.105/Cry2Ab2
DAS-40278-9	AAD1	TC1507	Cry1F/pat



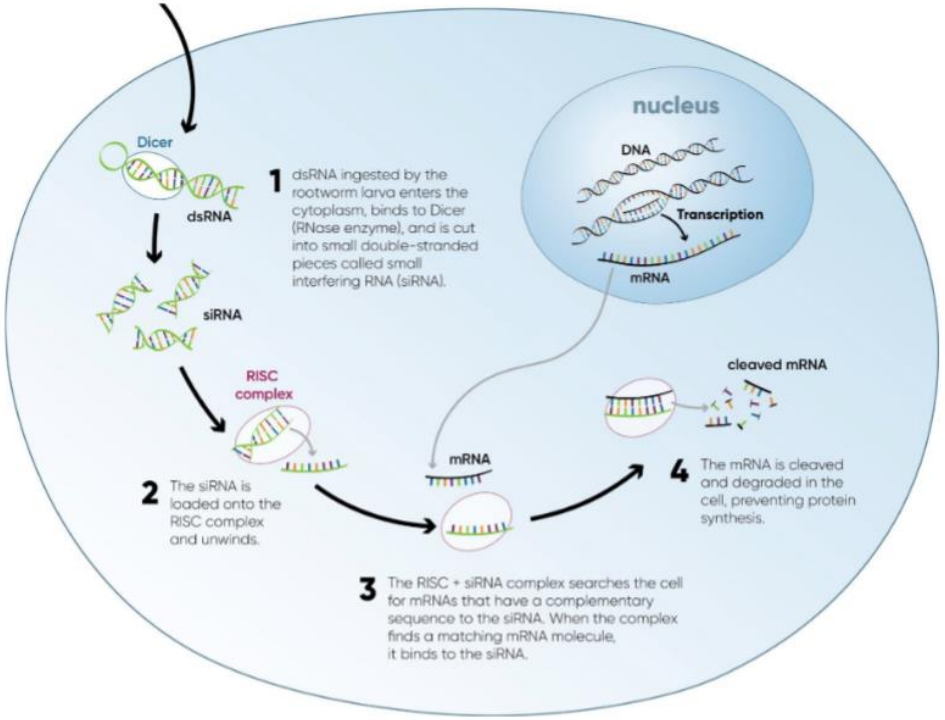


Vorceed™ Enlist® corn

- **Strong Root Protection and Population Suppression:** Snf7 (RNAi)
- **Higher Yield Potential**: DP4114 unlocks greater germplasm
- **Convenient weed control** via **Enlist™** system and **integrated 5% refuge**



How RNAi Works



- ✓ DNA is transcribed into RNA
- ✓ RNA translated into a protein
- ✓ RNAi interferes with translation of mRNA into protein

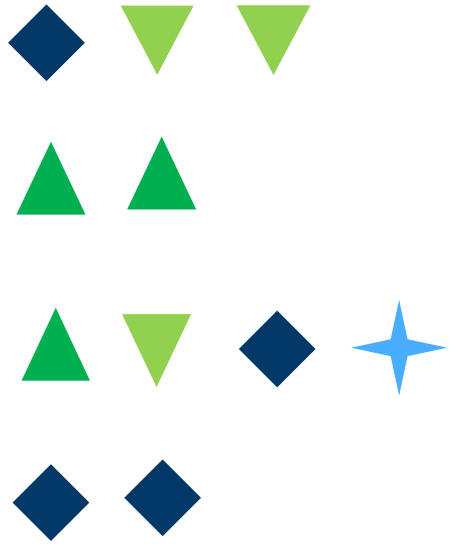
Activity of dsRNA DvSnf7

- RNAi may have relatively slow speed of kill compared to traditional protein toxins
- Stunting of 2nd instars after 5 days of feeding
- 50% mortality 5-6 days after initial exposure
- High mortality after 12 days
- Larvae can continue to feed until death

Stacked Gene Summary

Vorceed™ Enlist®

- **MON87411** Gly/RNAi/Cry3Bb1
- **MON89034** Cry1A:Cry2A
- **DP4114** Cry1F:Gpp34/Tpp35Ab1:PAT
- **Enlist – 40278** 2,4-D, FOPs



Herbicide trait

Above Ground

Below Ground

Yield across genetics

Thank you