



## First generation CPB foliar trial (E-10)

This experiment combines several different contracted research trials targeting first generation Colorado potato beetle control and can be seen in field E-10. Snowden B-size tubers were machine-planted on a 12-inch spacing on Apr 19 with standard fertilizer granules but no at-plant insecticide. The field is divided into blocks of 12 treatments, each block containing four replicates of an untreated control and 11 insecticide programs. Rimon and Avaunt eVo treatments (No. 15, 16, 26-28) were initiated at 10% egg hatch on Jun 8, and all other treatments were initiated at 50% egg hatch a week later on Jun 16. Applications were made using a backpack sprayer delivering 20 gal/ac.

### Trt Description

1	Untreated Check (Block 1)
2	CX-2330 WG 1 lb (3x5-day)
3	CX-2330 WG 1.5 lb (3x5-day)
4	CX-2330 WG 1.5 lb (2x7-day)
5	Entrust 2 SC 5 fl oz (2x7-day)
6	CX-2330 WG 1 lb + BoteGHA 11.3 ES 1 pt (3x5-day)
7	Plinazolin Rate 1 (1 app)
8	Plinazolin Rate 2 (1 app)
9	Torac 1.29 EC 14 fl oz + NIS 0.25% (2x7-day)
10	Torac 1.29 EC 21 fl oz + NIS 0.25% (2x7-day)
11	NAI-3333 SL 14 fl oz + NIS 0.25% (2x7-day)
12	NAI-3333 SL 21 fl oz + NIS 0.25% (2x7-day)
13	Untreated Check (Block 2)
14	GPI-220 400 SC 3.8 fl oz + NIS 0.25% (2x7-day)
15	Rimon 0.83 EC 12 fl oz (2x7-day @ egg hatch)
16	Rimon 0.83 EC 8 fl oz (3x7-day @ egg hatch)
17	Delegate 25 WG 4 oz (2x7-day)
18	Delegate 25 WG 3 oz (2x7-day)
19	Blackhawk 36 WG 3.3 oz (2x7-day)
20	Calantha 8 SL 16 fl oz (3x5-day)
21	Calantha 8 SL 16 fl oz (3x7-day)
22	Calantha 8 SL 16 fl oz (2x10-day)
23	Harvanta 50 SL 10.9 fl oz (2x7-day)
24	Harvanta 50 SL 9 fl oz (2x7-day)
25	Untreated Check (Block 3)
26	Avaunt eVo 30 WG 6 oz + Exponent 91.3 EC 6.5 fl oz (3x7-day @ egg hatch)
27	Avaunt eVo 30 WG 4.5 oz + Exponent 91.3 EC 6.5 fl oz (3x7-day @ egg hatch)
28	Avaunt eVo 30 WG 6 oz + Exponent 91.3 EC 6.5 fl oz + Rimon 0.83 EC 8 fl oz (3x7-day @ egg hatch)
29	Elevest 2.22 SC 9.6 fl oz (2x7-day)
30	Elevest 2.22 SC 7.5 fl oz (2x7-day)
31	Vantacor 5 SC 2.5 fl oz (2x7-day)
32	Vantacor 5 SC 2 fl oz (2x7-day)
33	Coragen 1.67 SC 7.5 fl oz (2x7-day)
34	Coragen 1.67 SC 5 fl oz (2x7-day)

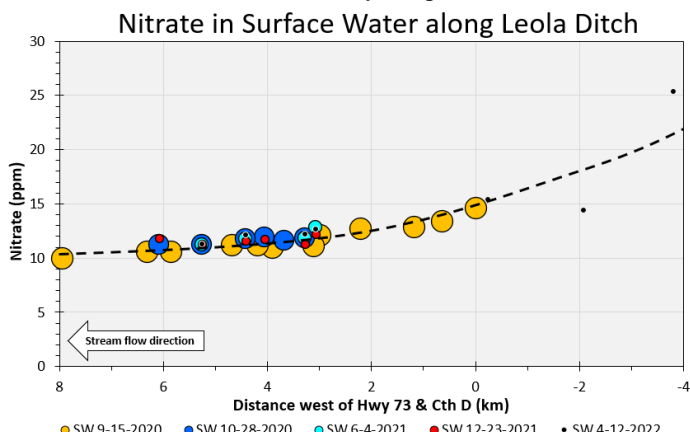
## First generation CPB at-plant trial (E-11)

None of the treatments described in the CPB foliar trial included an at-plant or seed treatment of an insecticide. Instead, this separate trial seeks to evaluate several different at-plant treatments for efficacy against first generation Colorado potato beetle in the absence of any follow-on foliar treatments. This trial can be found in the northwest quarter of field E-11, which is just east of the CPB foliar trial in E-10. Snowden B-size tubers were hand-planted on Apr 26 on a 12-inch spacing. Seed treatments were applied the prior day by tumbling in a cement mixer. In-furrow applications were made using a backpack sprayer delivering 8.5 gal/ac immediately after placing untreated seed in furrows.

Trt	Product	Rate	Delivery
1	Untreated		
2	Verimark 1.67 SC	0.61 fl oz/cwt	Seed
3	Admire Pro 4.6 F	0.35 fl oz/cwt	Seed
4	Cruiser 5 FS	0.15 fl oz/cwt	Seed
5	Belay 2.13 SL	0.6 fl oz/cwt	Seed
6	Verimark 1.67 SC	13.5 fl oz/ac	In-furrow
7	Admire Pro 4.6 F	8.7 fl oz/ac	In-furrow
8	Platinum 75 WG	2.67 oz wt/ac	In-furrow
9	Belay 2.13 SL	12 fl oz/ac	In-furrow

## Water quality investigations in Leola Ditch

Leola Ditch is a tributary of Fourteenmile Creek that flows through the Central Sands from Plainfield towards Petenwell Lake on the Wisconsin River. It drains an area of high agricultural land use characterized by sandy, porous soils, tile drains, and ditches. We expect these conditions to lead to elevated nitrate and insecticide loads in stream water. See below for nitrate detections from 2020-2022. Nitrate detections were highest in the east (upstream) with dilution evident downstream to the west. The Wisconsin DNR has established 10 ppm as an enforcement standard and recommends avoiding consumption of water containing more than 10 ppm nitrate. As a predominantly groundwater-fed stream, this suggest groundwater in this area also contains elevated nitrate. This work was funded in part by DATCP and in collaboration with Dave Hart, Mike Parsen, and Billy Fitzpatrick at WGNHS.



# Web resources from UW Madison Entomology & Plant Pathology

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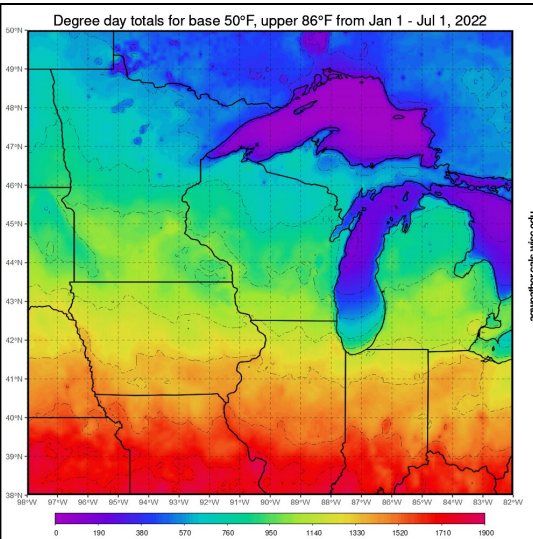
## UW Extension AgWeather – [agweather.cals.wisc.edu](http://agweather.cals.wisc.edu)

This site provides easy access to several different types of weather data from our database. Data coverage extends across the upper Midwest, see map right.

- **Weather:** Min/max daily air temp, precipitation, dew point, vapor pressure, hours of high humidity, and mean temperature during periods of high humidity. Data sourced from NOAA.
- **Solar insolation:** A measure of the amount of solar radiation striking the surface of the earth, this data is sourced from the UW Space Science and Engineering Center and is used to compute potential evapotranspiration.
- **Evapotranspiration:** Useful in irrigation scheduling, these daily values are calculated from air temperature, solar insolation, latitude, and day of year.
- **Thermal models:** View/calculate degree day models and some disease risk models. Also available is an oak wilt risk model, essential if pruning oaks.
- **Email subscriptions:** Add sites of your choosing (home, field, etc) and get optional daily weather updates, forecasts, and degree day models.

## Irrigation Scheduling Program – [wisp.cals.wisc.edu](http://wisp.cals.wisc.edu)

A complete irrigation scheduling program for your farm, it uses a few simple initial and periodically updated conditions (soil moisture, crop, canopy cover) as well as weather and potential evapotranspiration values (automatically imported but can be manually adjusted). Create a farm, add pivot(s), each pivot can serve one or more fields, and each field can have one crop. Once set up it tracks water balance in the field and predicts soil water levels. It warns when a field crosses below the allowable depletion or experiences deep drainage due to excess water. Input your irrigation actions to update the model.



## Vegetable Disease and Insect Forecasting Network

### (VDIFN) – [agweather.cals.wisc.edu/vdifn](http://agweather.cals.wisc.edu/vdifn)

VDIFN uses daily gridded weather data which are fed into various disease risk and insect developmental models and converted into daily disease severity values (or equivalents) or degree-days. These disease severity value and degree-day accumulations are then displayed on the map as color-coded risk scores based on the estimated risk to susceptible crops. Clicking on an individual grid cell brings up the daily history of weather data and disease severity values or degree-days for that location.

When you visit VDIFN you will see the navigation and settings pane on the left, the map and pest severity display in the center, and a legend on the lower right. You can switch between disease, insect, and custom model modes with the buttons across the top of the left panel. Pick a model using the Model Selection section and use the question mark box to get more information on the disease or insect. After selecting a model, note that the date range boxes populate with defaults for each model, but can be adjusted if desired. Click on an individual grid point to bring up more details for that specific location, including a detailed history of weather readings and daily and cumulative disease severity value or degree-days (depending on the model selected).

*VDIFN showing early blight risk as of Jul 1. More than 300 p-days have accumulated since May 15 in most locations. After 300 p-days, risk is indicated by daily average p-day values.*



AgWeather



VDIFN



Vegetable Entomology



WISP



Vegetable Pathology