Evaluation of Anthraquione Bird Repellent

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NWRC Avian Repellents Research

- **Evaluation and Development**
- **Application Strategies**

Avian Repellents Research – Tested Products

Registered Fungicides:

Allegiance® FL
Apron XL® LS/Maxim® 4FS
Dividend Extreme® FS
Endura®
GWN-4770
Thiram 42-S
Tilt® EC
Trilex® FL
Quadris®
Vitavax® 200

Registered Insecticides:

Asana XL®
Baythroid 2®
Cobalt™
Endosulfan 3EC®
Karate® with Zeon Technology™
Lorsban-4E®
MustangMAX™
Scout X-TRA®
Warrior T®

Natural Compounds:

Aza-Direct™ (neem oil)
Caffeine (plus sodium benzoate)
Flock Buster (lemon grass oil, garlic oil, clove oil, peppermint oil, rosemary oil, thyme oil, white pepper)
Gander Gone (citrus terpenes)
9, 10 Anthraquinone™ (Seed treatment and Foliar formulations; a.i. 50% 9-10 anthraquinone)

Anthraquinone Experiments

- Cage Experiments –
  - single birds
- Enclosure Experiments
  - known number of birds
- Field Experiments
  - variable numbers of birds

Avian Repellents Research- cages

Lab Efficacy Testing

Preference Testing

- **10-12 birds**
- **4-day choice test**
- **untreated versus treated foo**

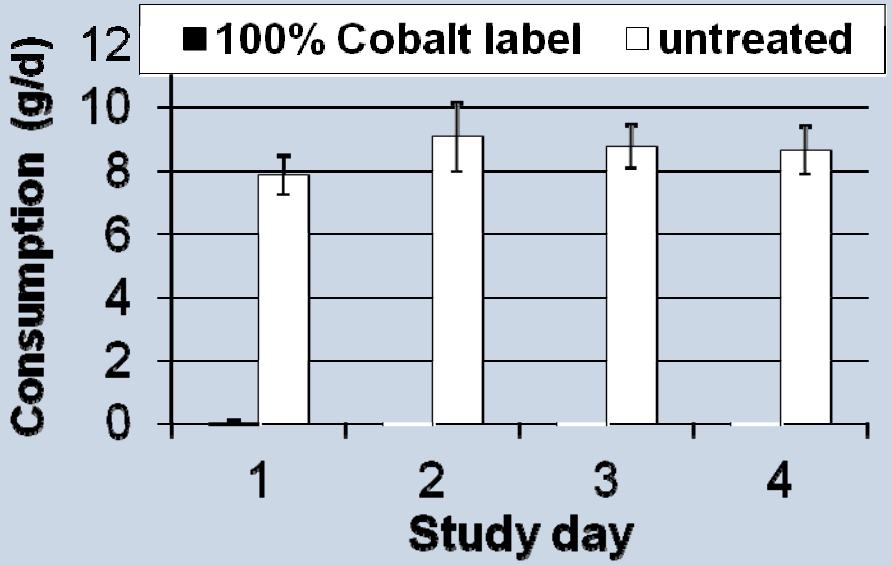
Concentration-response Testing

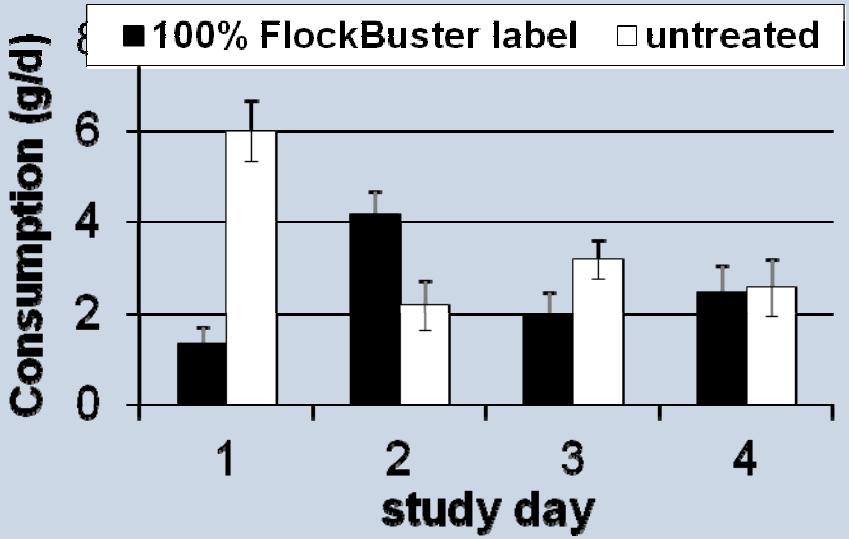
- **50-60 birds, 5-6 groups**
- **4-day pretreatment & test**
- **5-6 concentrations tested**

NWRC Outdoor Animal Research Facility

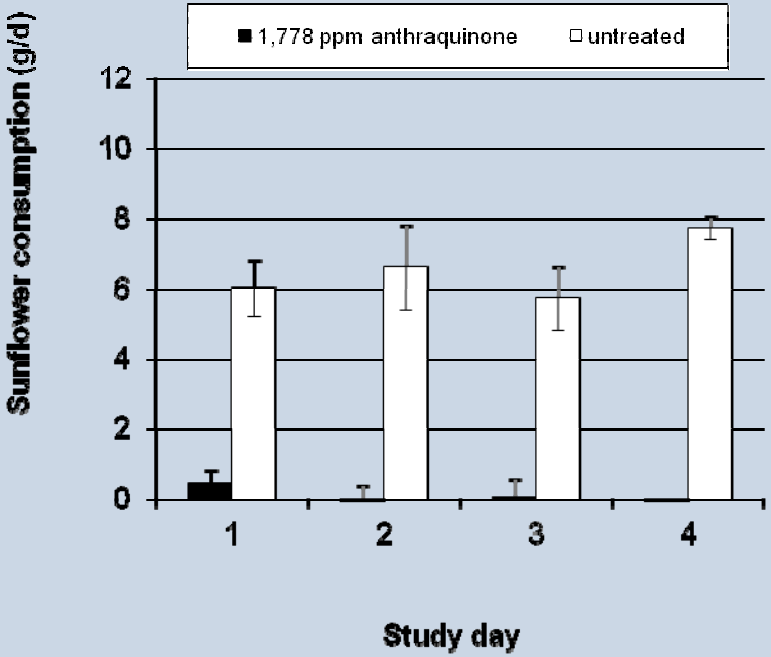
Fort Collins, CO

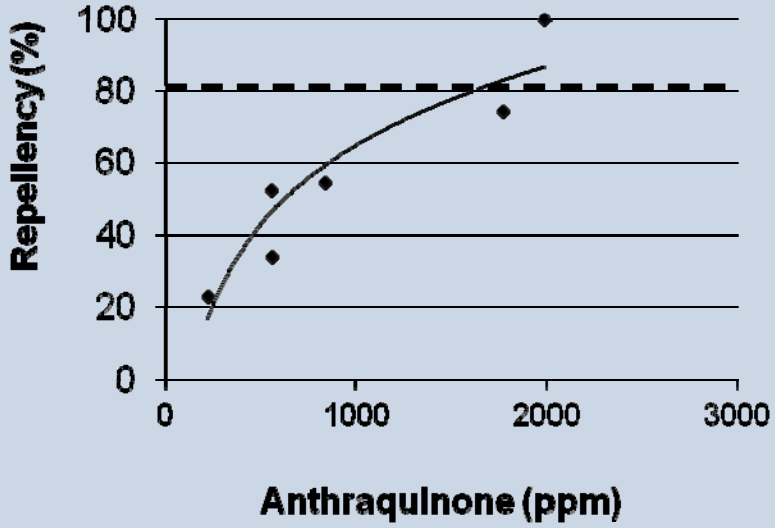
Cobalt™ and Flockbuster



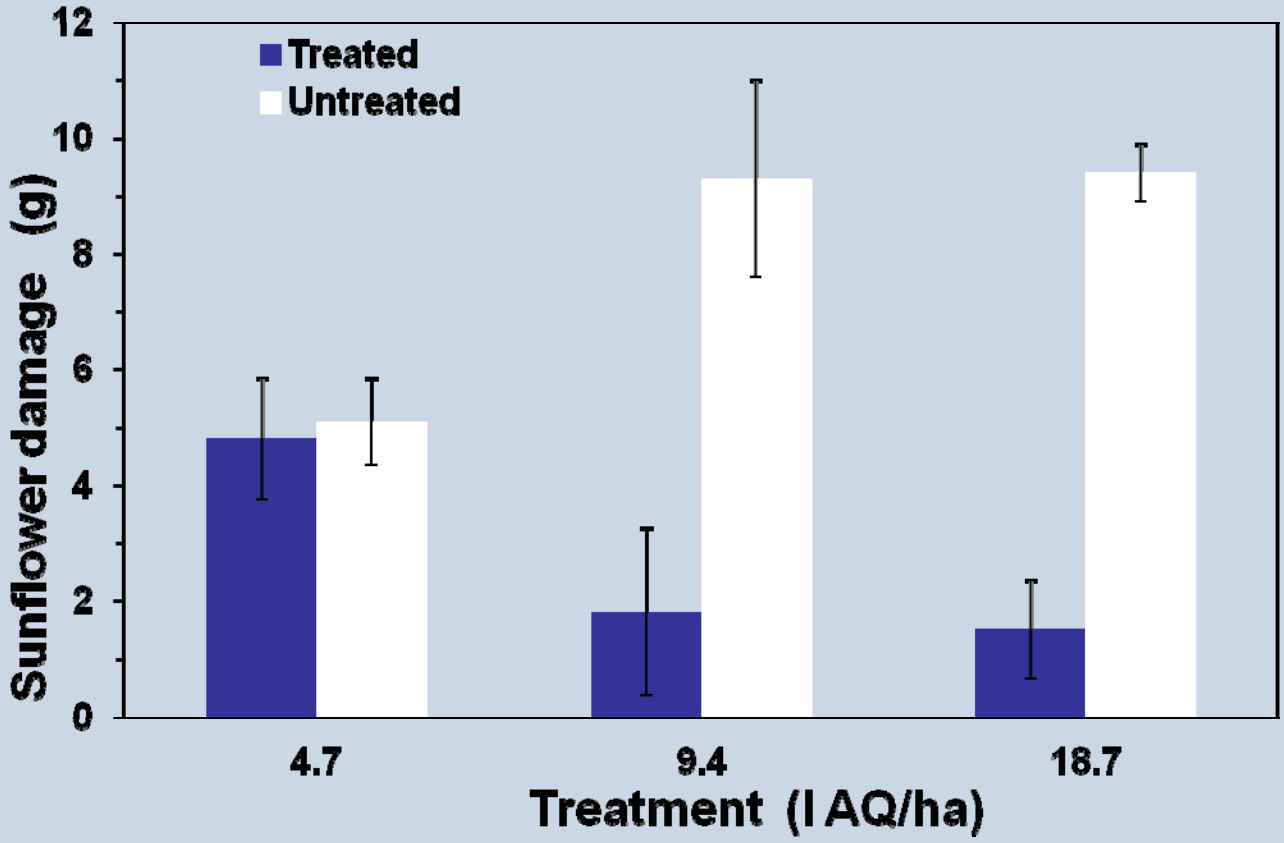


Anthraquinone lab efficacy- RWBL





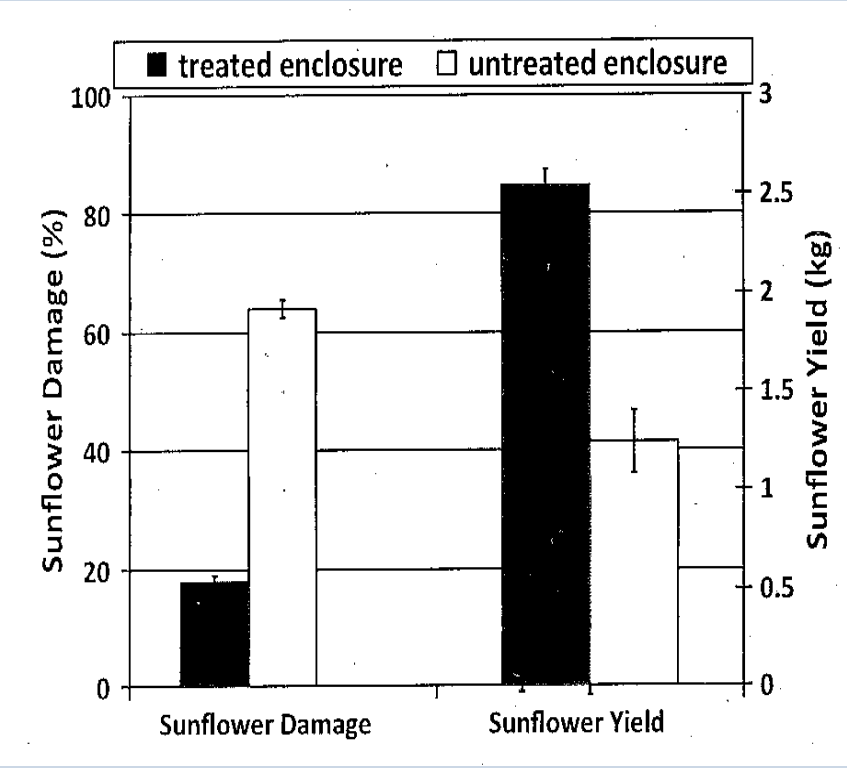
Back of the Head AQ Study



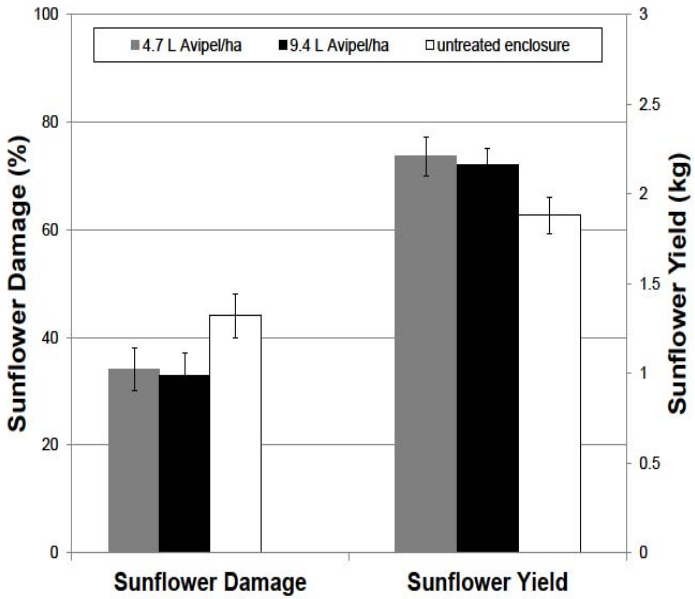
Avian Repellents Research- Enclosures

AQ Enclosure Studies

Grackles (18 l/ha)



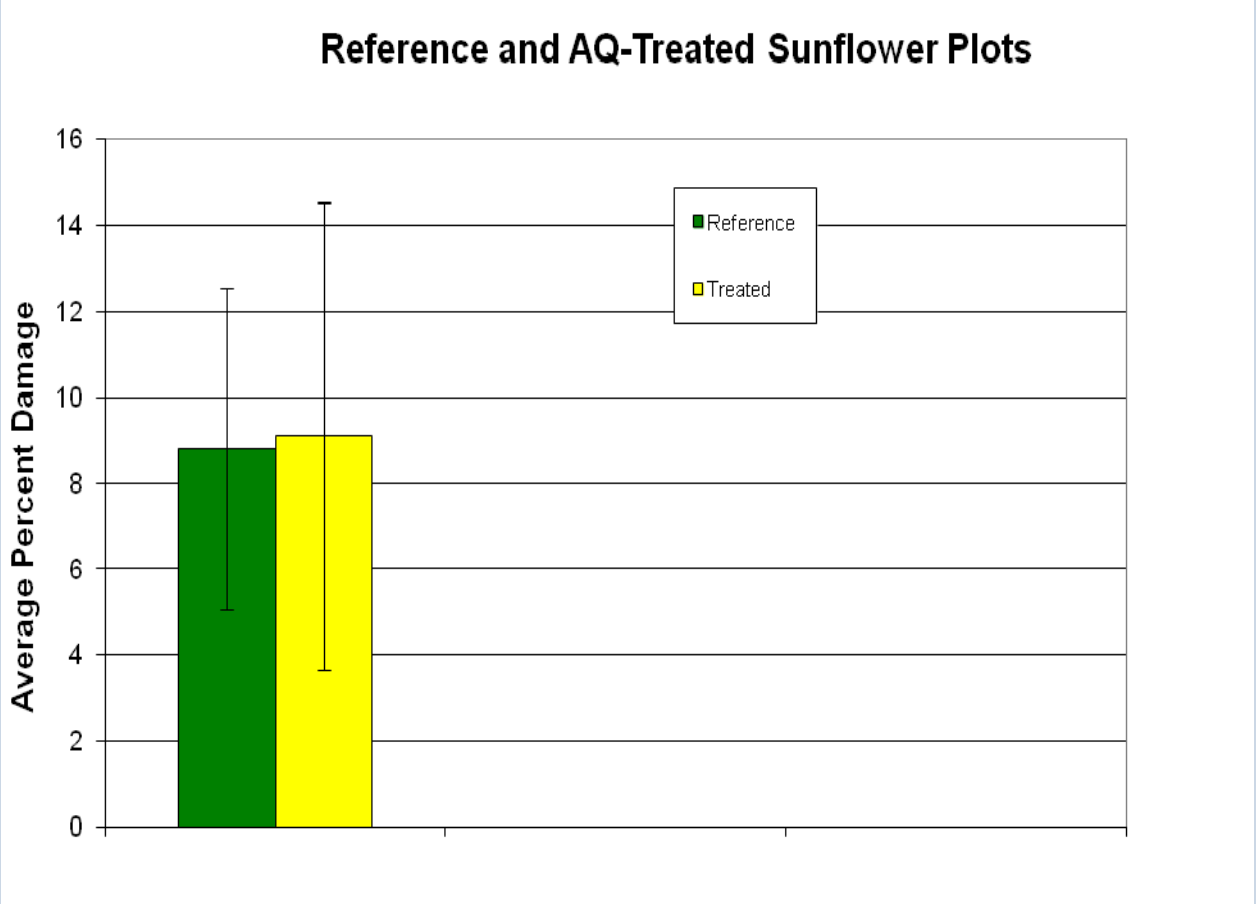
Redwings 4.7 l/ha & 9.4 l/ha



AQ Field Study - Aerial Application

Blackbirds in Wetland Adjacent to Test Strips

Results – AQ Field Study (9.4 l/ha)



Application of AQ

Aerial Application	High Boy	Hand spray

High Boys in Sunflower?

‘High Boys’ in Sunflower: Another Look

Photos: Sonia Mullally

To desiccate or not to desiccate? The question lingers on the minds of many producers as harvest approaches each year.

“There’s a premium crop out there this year,” noted Washburn, N.D., agronomy specialist Darrell Scheresky in early October. “There’s more of an incentive to raise it this year.”

Chasing that good crop means being proactive with desiccation.

The agronomy center in Washburn, Farmtrust, helps out area growers with its new 4830 John Deere high-clearance sprayer. With a 120’ boom and fully equipped GPS technology, the operator guides the steering wheel with little effort, and the satellites take care of the rest. The sprayer adjusts the flow and output of chemical, allowing the booms to stop automatically and avoid spraying the same area twice. This also saves the farmer in product cost.

Favorable early fall weather allowed the Washburn-based agronomy team to desiccate a number of sunflower fields this season. Among them were those of Washburn area producer Tony Carlson. He hired the Farmtrust crew to spray all of his 800 acres of oil sunflower this season in stages so that his flower harvest would fall into manageable intervals.

When he was not inundated other harvest activities, Carlson expressed pleasure with his yields. He had some cutworm issues and emergence problems early on this season, but was looking forward to ending the season with a profitable crop. Carlson has desiccated his sunflower the past three years and says the practice has been very beneficial in helping him reduce the crop’s overall maturity while preserving yield potential.

Getting the sunflower crop off timely with the help of a desiccant can pay good dividends for numerous growers. With today’s higher values, getting the crop harvested a few weeks earlier can result in higher yields and lower drying costs. Late-season crop damage is well documented when strong winds can lodge plants or the seeds from heads. Blackbird damage can be reduced, and desiccation may also slow down head diseases such as Sclerotinia. Sometimes the market will pay a premium for early delivered seed.

These are all positives for the grower — especially when there’s a favorable crop waiting for the combines.

Carlson has utilized both aerial and ground desiccant applications in the past, depending on what he’s looking for in protection. “You have to be patient,” he notes. “I use Roundup simply because it gives an overall coverage in one pass as-

Future AQ Research

- Rat Cancer Data Submitted to EPA
  - 2012
    - 18 l/ha Aerial Application
    - 4 ha Crop Destruct
    - 2013
    - Experimental Use Permit
      - 200 ha (500 ac)
      - Aerial & Ground Application

End Game

- ✓ Desiccants
- ✓ Frightening Devices
  - Short Sunflowers?
- ✓ Cattail Roost Management
- Chemical Repellents
- Conservation Food Plots
  - Perennial Sunflower

Literature

Linz, G.M., Homan, H.J., Werner, S.J., Hagy, H.H. and Bleier, W.J. 2011. Assessment of bird-management strategies to protect sunflowers. BioScience 61: 960–970.

Acknowledgements

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Thank You!