



Weed ecologist with University of Copenhagen

Previous research relevant to this position

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02-09-2021

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 maxweeds.rbind.io

Education background

- Universidade Federal dos Vales do Jequitinhonha e Mucuri
 - BSc in Agronomy
 - MSc in Crop Science (Weed Science)
- University of Nebraska-Lincoln
 - PhD in Weed Science

Image: Sophie Louisnard/Unsplash



Herbicide resistance evolution

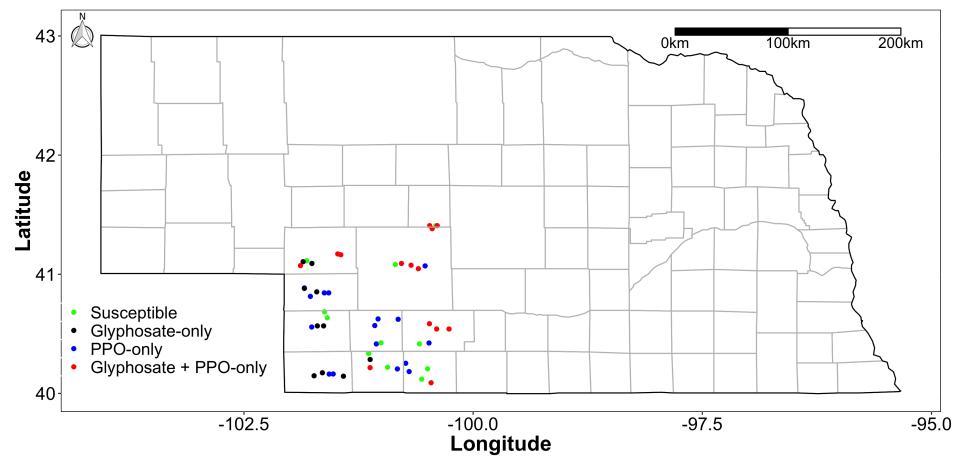
Confirmation

- A HPPD-resistant *Amaranthus tuberculatus* (waterhemp) biotype from Nebraska



Monitoring

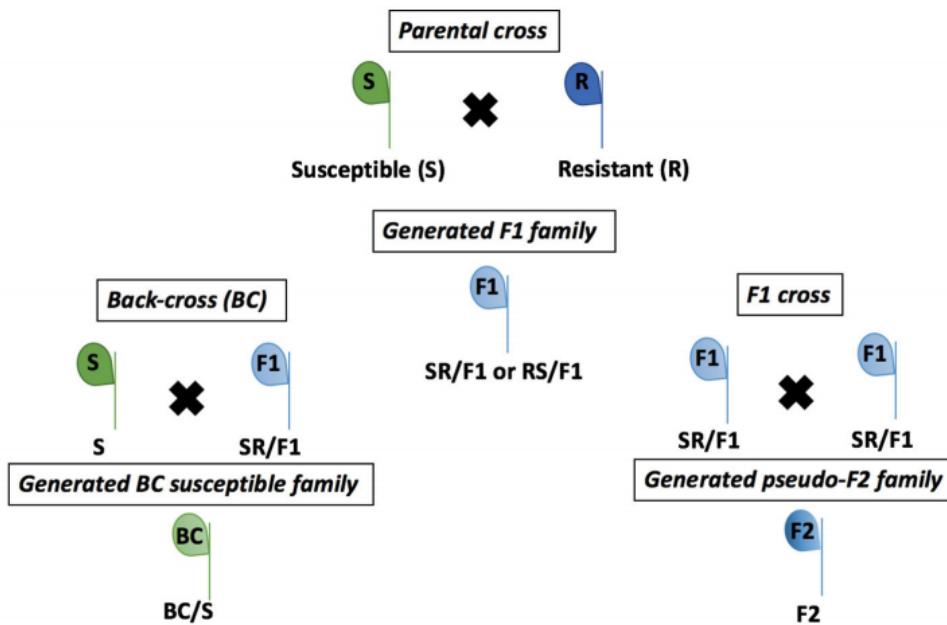
- EPSPs and PPO resistance in *Amaranthus palmeri* (Palmer amaranth)



Herbicide resistance evolution

Inheritance

Inheritance study in a HPPD-resistant waterhemp biotype from Nebraska



Gene flow

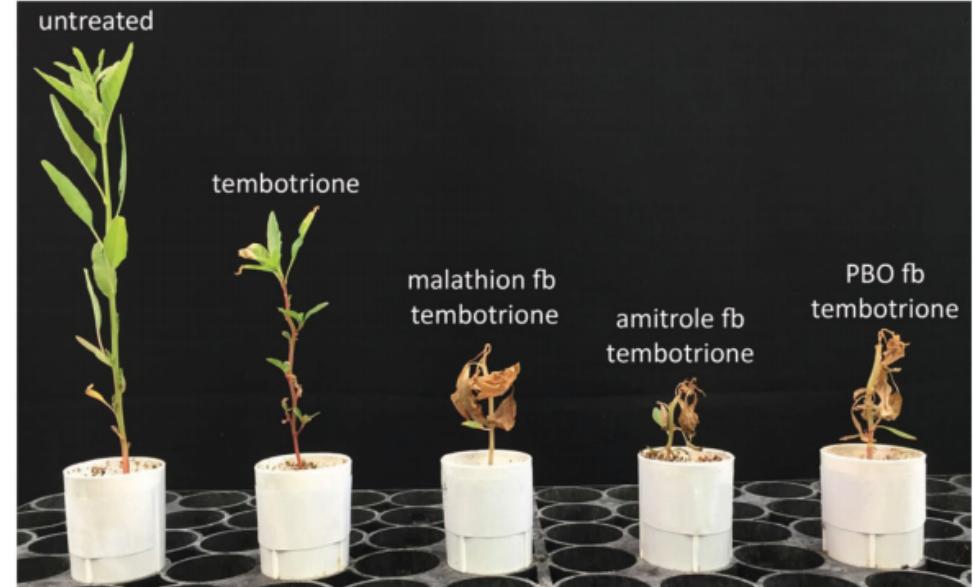
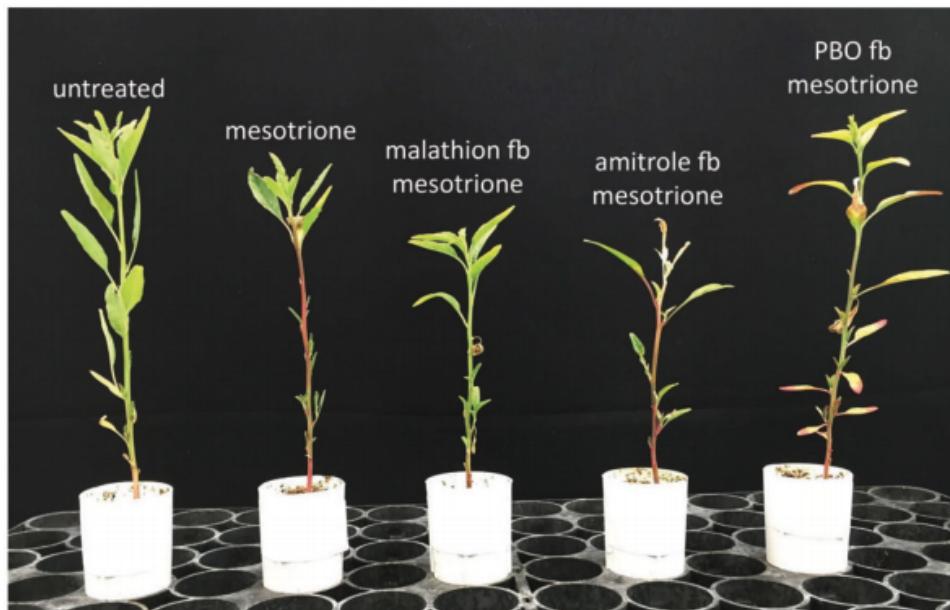
HPPD-resistant waterhemp and Palmer amaranth resistance transfer



Herbicide resistance evolution

Reversing resistance

- HPPD-resistant waterhemp from Nebraska
- Use of cytochrome P450 inhibitors



Integrated weed management

- Herbicides
- Cover crops
- Row width
- Tillage
- Flaming 🌫





Surveys

Paper and online-based survey with stakeholders

- Adoption of dicamba in **Nebraska**
- Assessment of cover crops in **Nebraska**
- Survey of weed management in **Wisconsin**
- Crop and weed management in **Brazil**

Image: Taylor Siebert/Unsplash

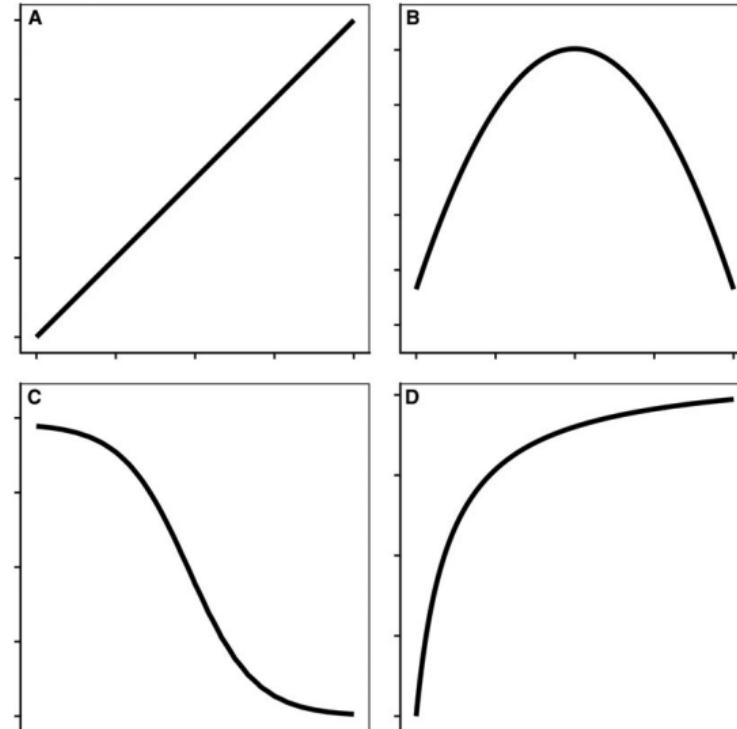
Extension

- Engage with stakeholders
- On-farm research
- Field days
- Talks
- Bulletins



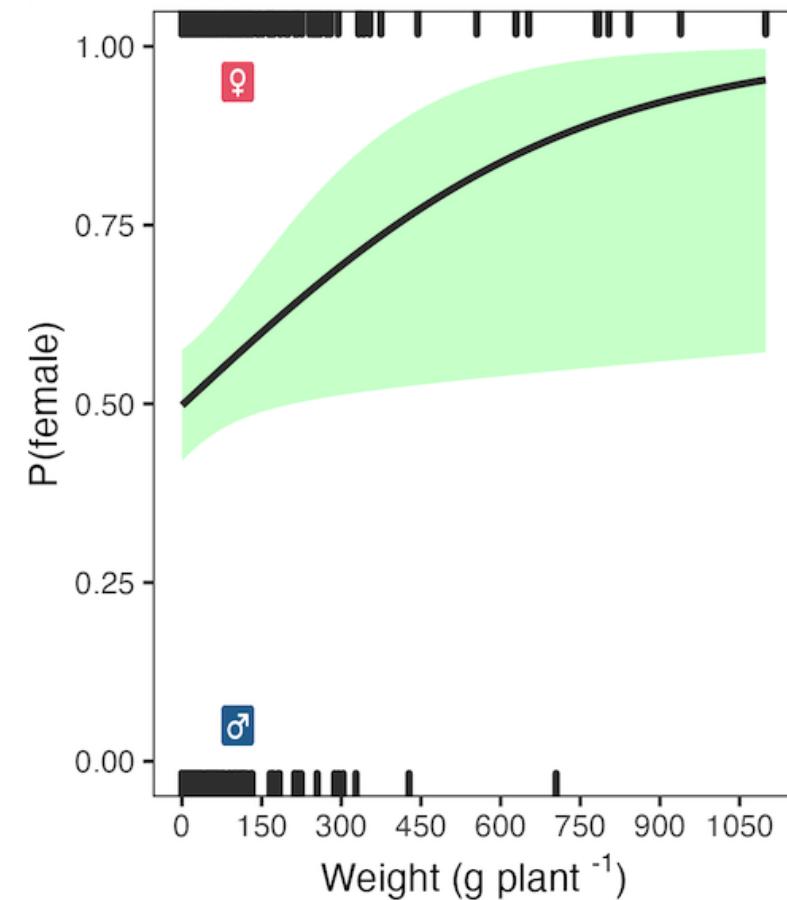
Crop-weed interactions

- Crop-weed competition
- Light quality on crop-weed interaction
- Critical time for weed control



Plant adaptation

Palmer amaranth adaptation to the US Midwest agroecosystem - not published yet



Data science

- Languages:
- GitHub
- Tidyverse [instructor](#)
- Data [visualization](#)
- Statistical modeling
- Blog - [maxweeds](#) and [Open Weed Science](#)
- Manuscripts
- Shiny app

Image: Markus Spiske/Unsplash

```
//fires the appear event when appropriate
var check = function() {
    //is the element hidden?
    if (!t.is(':visible')) {
        //it became hidden
        t.appeared = false;
        return;
    }

    //is the element inside the visible window
    var a = w.scrollLeft();
    var b = w.scrollTop();
    var o = t.offset();
    var x = o.left;
    var y = o.top;

    var ax = settings.accX;
    var ay = settings.accY;
    var th = t.height();
    var wh = w.height();
    var tw = t.width();
    var ww = w.width();

    if (y + th + ay >= b &&
        y <= b + wh + ay &&
        x + tw + ax >= a &&
        x <= a + ww + ax) {

        //trigger the custom event
        if (!t.appeared) t.trigger('appear', settings.data);
    } else {
        //it scrolled out of view
        t.appeared = false;
    }
};

//create a modified fn with some additional logic
var modifiedFn = function() {
    //mark the element as visible
    t.appeared = true;
    //is this supposed to happen only once?
    if (settings.one) {
        //remove the check
        w.unbind('scroll', check);
        var i = $.inArray(check, $._fn.appear.checks);
        if (i >= 0) $._fn.appear.checks.splice(i, 1);
    }
    //trigger the original fn
    fn.apply(this, arguments);
};

//add fn to the element
$(t).on('appear', settings.data, modifiedFn);
```



Thank you!

You can find me at...

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