



Rye cover crops



Setting realistic expectations for Midwestern corn and soybean systems.

How much cover crop biomass can I produce?

See for yourself!

Can cover crops increase my soil's water-holding capacity?

No.

Can cover crops reduce weeds in the short term?

Yes but.

Can cover crops reduce weeds in the long term?

Yes but.

How much cover crop biomass can I produce?

I built an online tool where users can see the range of biomass productions that would have been produced over the past 30 years in their county.

<https://vanichols.shinyapps.io/MidwestRyeCoverCrop/>

Midwest Cover Crop Biomass Explorer | Biomass Ranges | About | Pop Can

How much rye biomass can I grow?


These values are based on model predictions using 30 years of historical weather data. For more information please see the **About** tab.

1. Pick a **state**
2. Pick a **county** (you can type it in)
3. Pick a rye planting date
4. Pick a rye termination date
5. See how much cover crop biomass you might expect

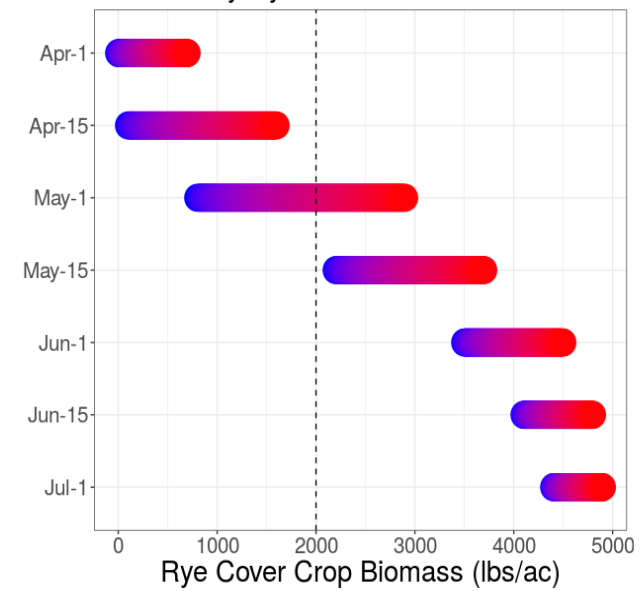
Choose a state:

Choose a county:

Choose a rye planting date:



Potential Biomass Production by Rye Termination Date

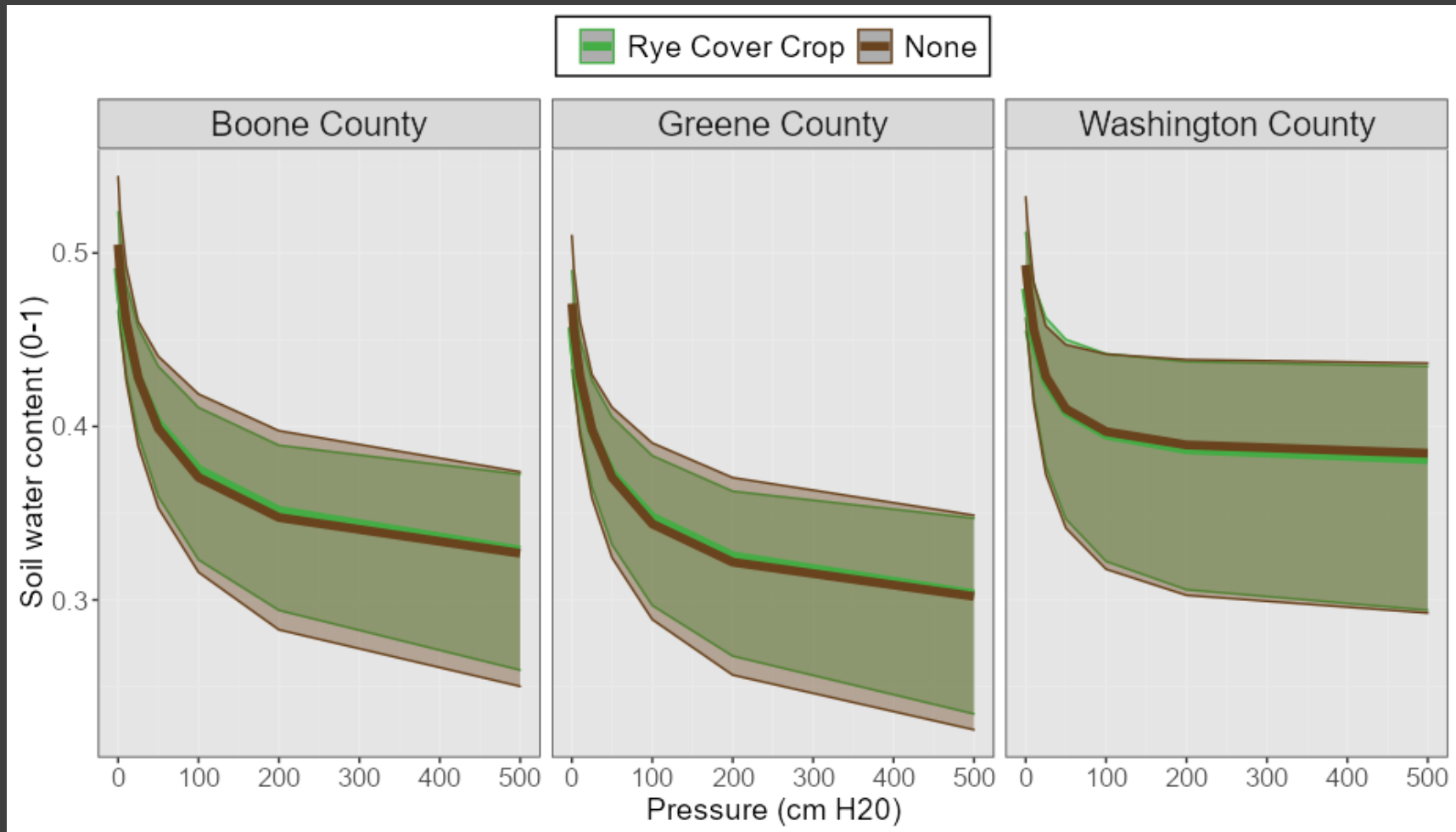


Rye Termination Date	Potential Biomass Production Range (lbs/ac)
Apr-1	~500 - 1000
Apr-15	~1000 - 1800
May-1	~1800 - 3000
May-15	~2000 - 3800
Jun-1	~3500 - 4500
Jun-15	~4000 - 4800
Jul-1	~4500 - 5000

Can cover crops increase my soil's water-holding capacity?

We took in-tact soil cores at 10cm deep from four 10+ year cover cropping experiments in Iowa.

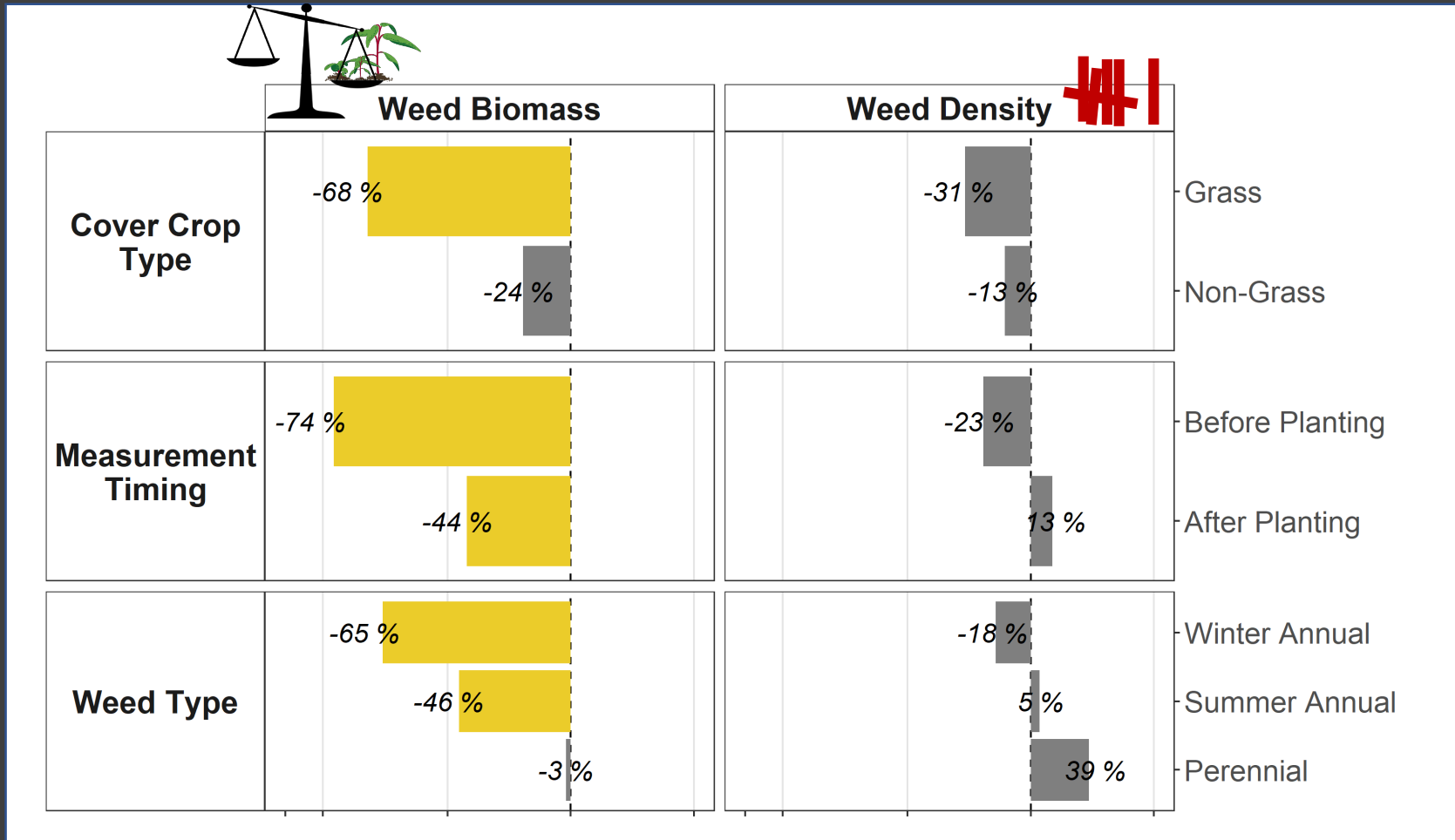
Cover cropping had no effect on the amount of water the soil can hold at any pressure.



Can cover crops reduce weeds in the short term?

We looked at all of the studies done in the Midwest and summarized them (a meta-analysis).

Using grass cover crops consistently and significantly reduces the size of established weeds, but not the number of weeds.



Can cover crops reduce weeds in the long term?

We sampled the weed seedbank from four 10+ year cover cropping experiments in Iowa.

In two of the systems, cover cropping significantly and meaningfully reduced the number of weed seeds in the soil.

