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## Reality of Double-crop (DC) soybean

Most of the producers do not manage DC soybean as they manage full-season soybean, which may limit yields.

Why?



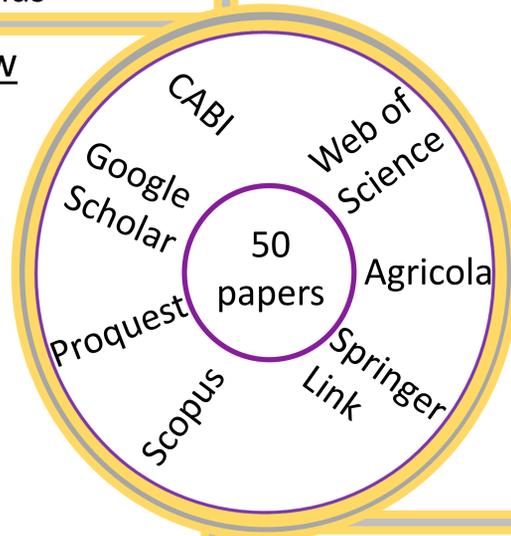
## Objectives were to relate:

- DC soybean and wheat yields
- DC soybean and full-season (FS) soybean yields

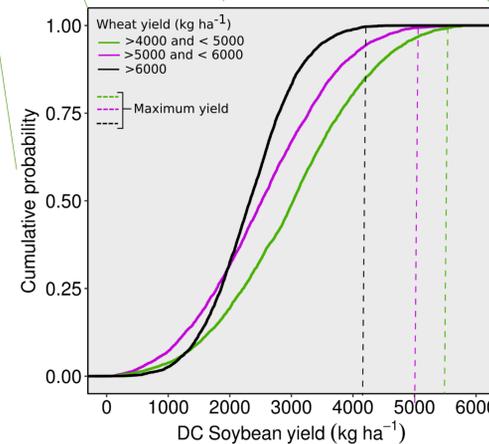
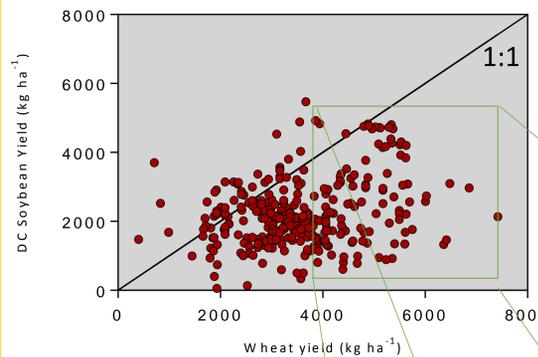
## Material and Methods - Systematic Review

- **Databases** (articles and thesis/dissertations)
- **Terms**
  - Double-crop
  - Soybean
  - Wheat
- **Scanning**
  - Yield
  - Soybean preceded by winter crop
  - No intercropping

125 papers



## Database 1 – Double-crop soybean and wheat



- 87% of the data collected present higher yields for wheat than for DC soybean
- The majority of the data shows even more than 2x wheat yield in comparison to DC soybean yields

- The maximum yield of DC soybean will change among different wheat yielding environments. The higher the wheat yield from the previous winter season is, lower is the probability of achieving high DC soybean yields.

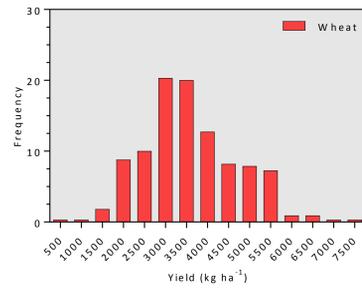
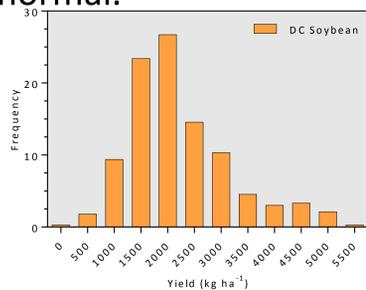
## Databases

- 1 - DC soybean and wheat (n = 335)
- 2 - DC and full-season soybean (n = 127)

## Histograms – Frequency distribution

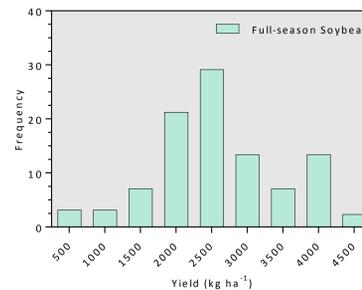
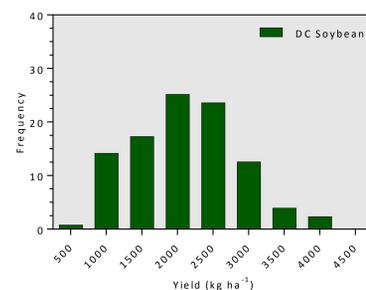
### Database 1- Double-crop Soybean and wheat

- The data for DC soybean has a skewness to the right in DC soybean, while the distribution for wheat is more normal.

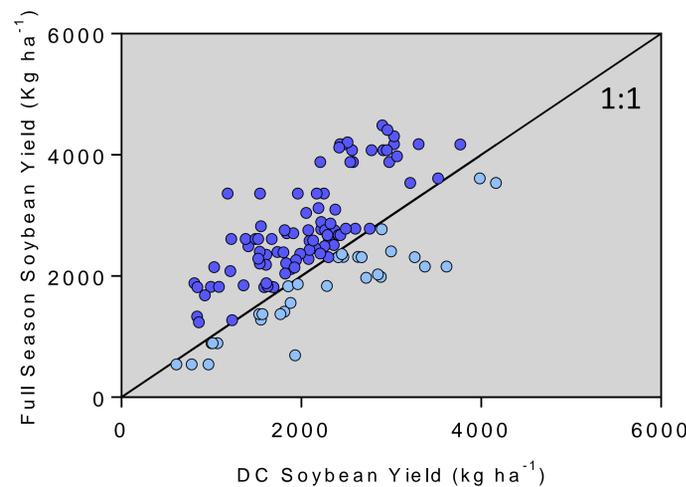


### Database 2- Double-crop and Full-season Soybean

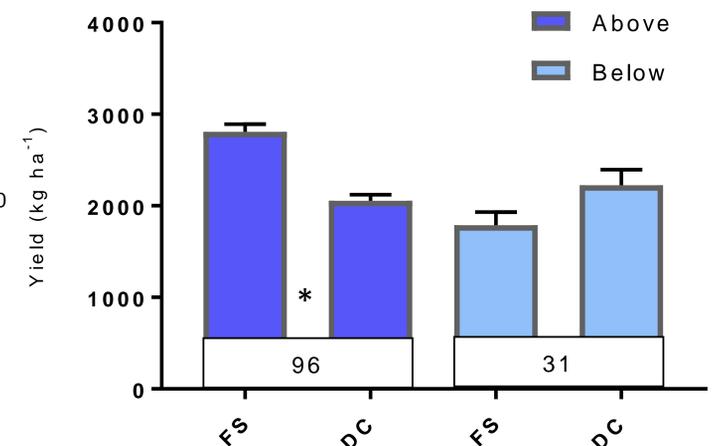
- Frequency peaks are similar for both datasets, however, for full-season soybean, the range of high yields is wider.



## Database 2 – Double-crop and full-season soybean



- In 23% of the cases, DC soybean outyielded full-season soybean. The average yield difference was 435 kg ha<sup>-1</sup>.



- Full-season soybean yielded more than double-crop soybean in 77% of the collected data, with the difference in yields of 753kg ha<sup>-1</sup>.

\*Average for data above and below the 1:1 line and number of observations.

## Conclusions:

- Double-crop soybean is affected by wheat yield, thus there is a high probability that in high yielding wheat environments, DC soybean yields less.
- Full –season soybean outyields DC soybean in most of the growing seasons.