

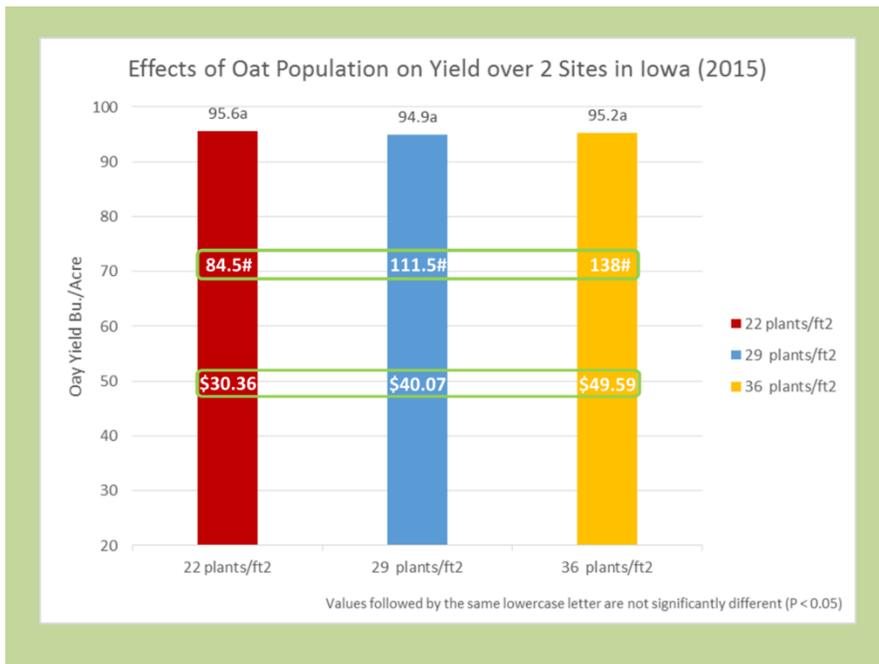
ISU-IOA Oat Population Trial

- 3 treatment trial: testing the effects of oat populations, 22, 29 and 36 plants/ft² (farmers= Aaron Lehman and Doug Alert, 2015 and Ortrude Dial, 2016).
- Both Lehman and Alert used Saber oats. All of Lehman’s oats were planted with 10 lbs/acre of red clover (planting dates: Lehman 3/31/15). The following equation was used to calibrate the planting rates:

$$\text{Desired Planting Rate} \left(\frac{\text{lb.}}{\text{acre}} \right) = \frac{\text{Desired Plant Stand} \div (1 - \text{expected loss}(\%))}{\frac{\text{Seeds}}{\text{lb.}} \times \text{PLS}}$$

PLS = Pure Live Seed

(expected loss = 15%, seeds/lb. =14,106, PLS = 95%)
Adapted from Wiersma et al.,2010

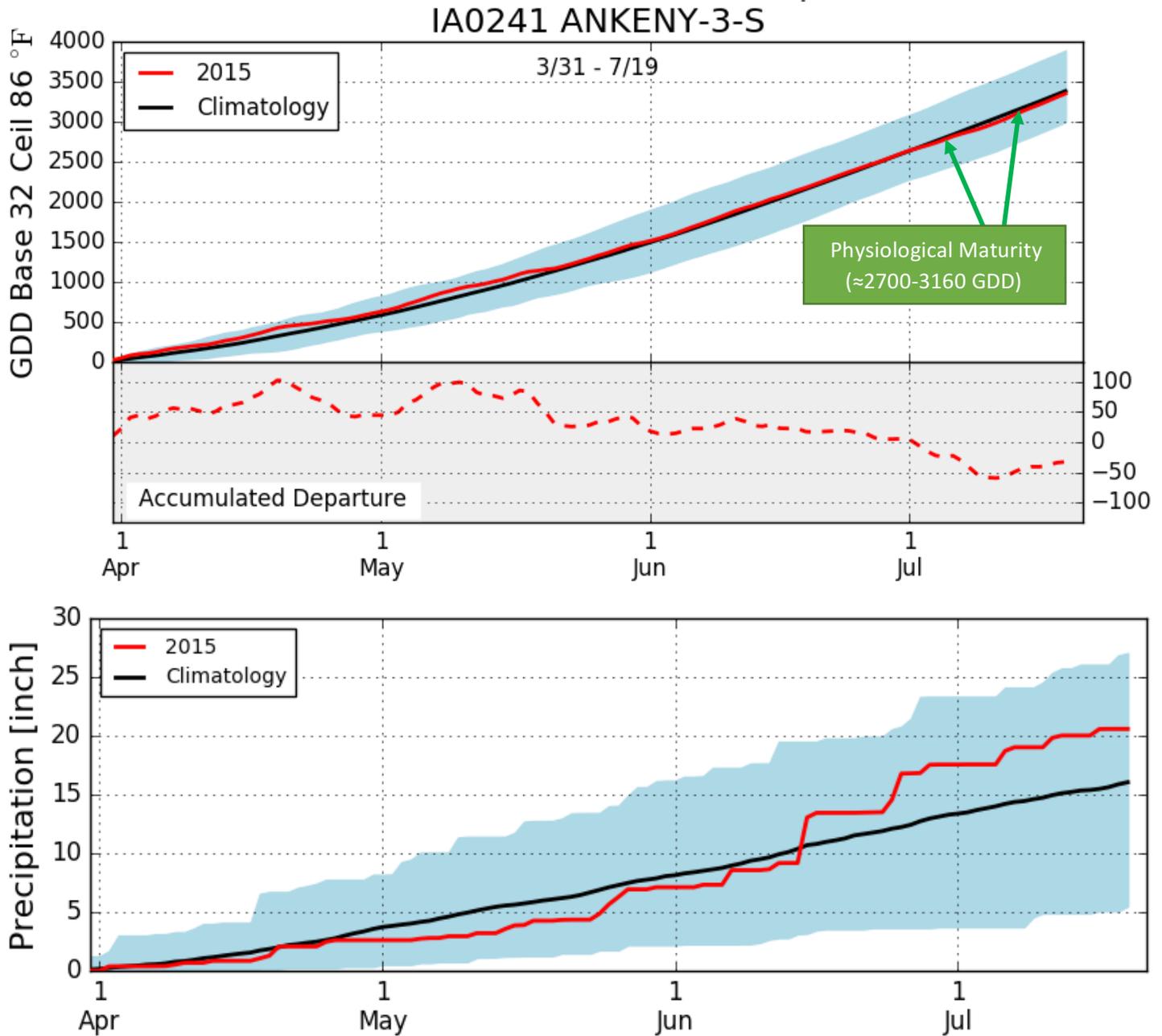


RESULTS

- Neither **yield (left)** nor **legume biomass** were significantly different between/among treatments and farms.
- **Test weights** were not significantly different except for population 1 (22 plants/ft²) at Doug Alert’s farm, which had a significantly higher test weight.
- **Weed biomass** was not significantly different between/among treatments but was different between farms.
- These one year of data suggest that seeding rates may be reduced to improve profitability.



Lehman Oat Population Trial Climate Data



Weather data: <https://mesonet.agron.iastate.edu/agweather/>

- Oats were planted on **March 31** and direct combined on **July 19**.
- The theoretical physiological maturity dates would have occurred between July 6 and 13
- Swathing potentially could have been performed potentially 7-10 days earlier than the actual harvest date.