Introduction:
To shed some light over future perspectives of agriculture with a possible different climatic scenario. I studied the impact that high temperatures have over the agricultural sector’s performance of counties in Nebraska. I have found that there is an important negative incidence of temperatures over 32°C during the growing season over agricultural performance on most counties.

Method:
The method of analysis is Data Envelopment Analysis (DEA), which I use to infer the boundaries of a possible feasible technology set from the observed points in the data. With this, I estimate a (C,S) Graph Measure of Technical Efficiency (GMTE) for each.

Inputs: Harvested Area, Irrigated Area, Fertilizers, Chemicals, and weather variables (degree days).
Output: biomass production.

Degree Days:
One DD is defined as one degree above 32°C temperature during 24 hours.
From the 5 closest weather stations to each county a maximum and minimum temperature for each day was estimated.
A single sine wave method was used to estimate how many hours during each day the temperatures were over 32°C.

Results:
For most counties, in most years, increases in the degree days are corresponded with increases in inefficiency.
Absolute value of the change in inefficiency will depend on the county.
Counties on the west have higher degree days values but the effects per degree day over inefficiency is smaller than in the east.

Conclusions:
The quantity of days during the growing season where the maximum temperatures were over 32 degrees Celsius (89.2°F) was found significant to explain decreases in crop yields for most of the counties.
For 14 of the 25 counties analyzed the degree days were found to be very significant to explain inefficiencies on agricultural production.

Further information:
ftrindade@huskers.unl.edu