



Crops

Agriculture in Argentina

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The dataset

Agriculture in Argentina



The dataset

Agriculture in Argentina

Available Information

- 32 crops
- 48 growing seasons
- area (sowed and harvested) [ha]

Geography and Temperature

- province
- department
- average temperature [° C]

Harvest

- production [t]
- performance [t / ha]
- quality (high/middle/low)

Overview

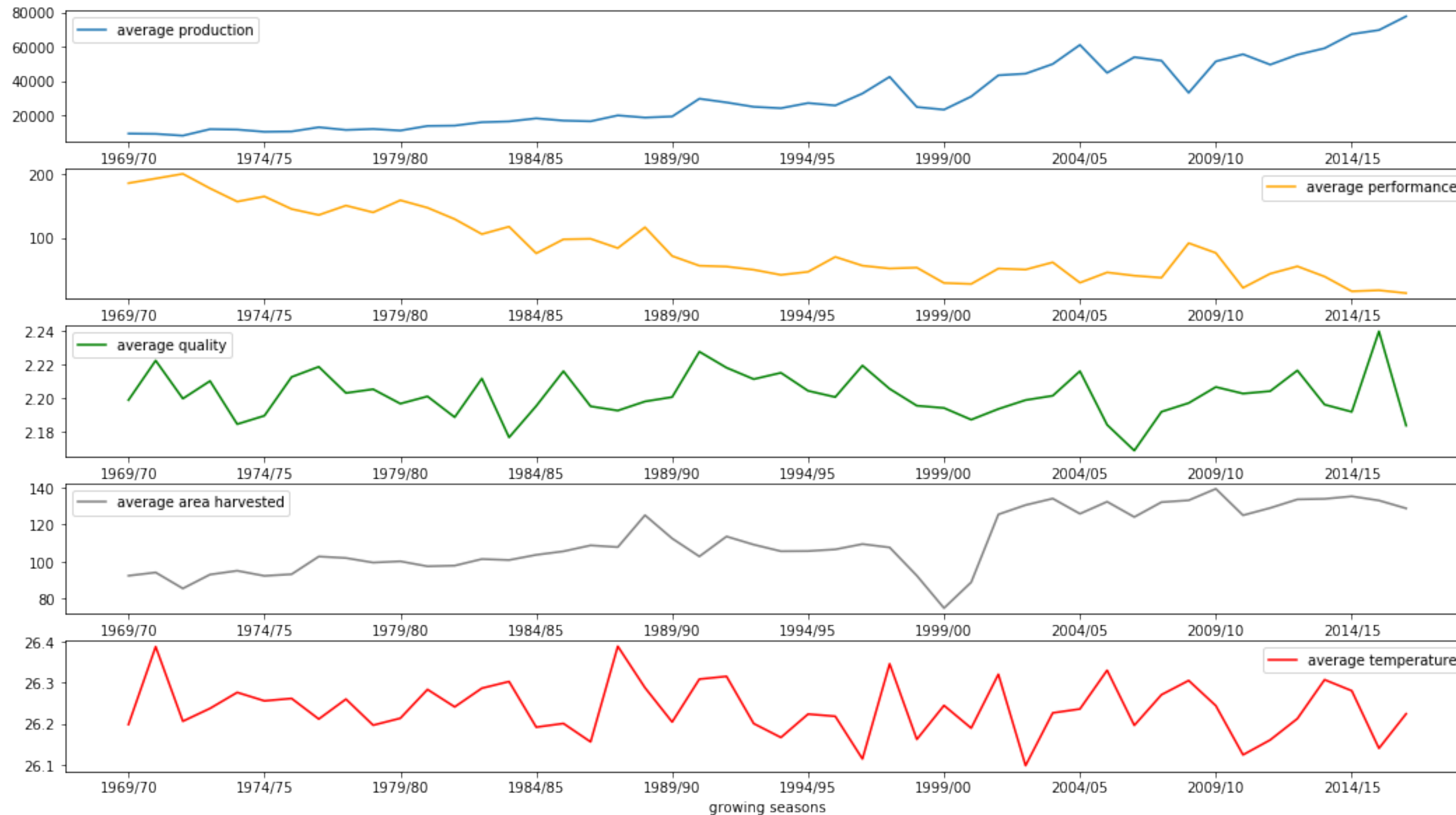
1. How did agriculture change over the last decades?
2. Did average temperatures change over the last decades?
3. Does higher performance effect the quality of the crops?
4. At which average temperatures do crops flourish and produce high yields?
5. Which crop has the best performance?
6. Predicting the quality of crops

1. How did agriculture change over the last decades?



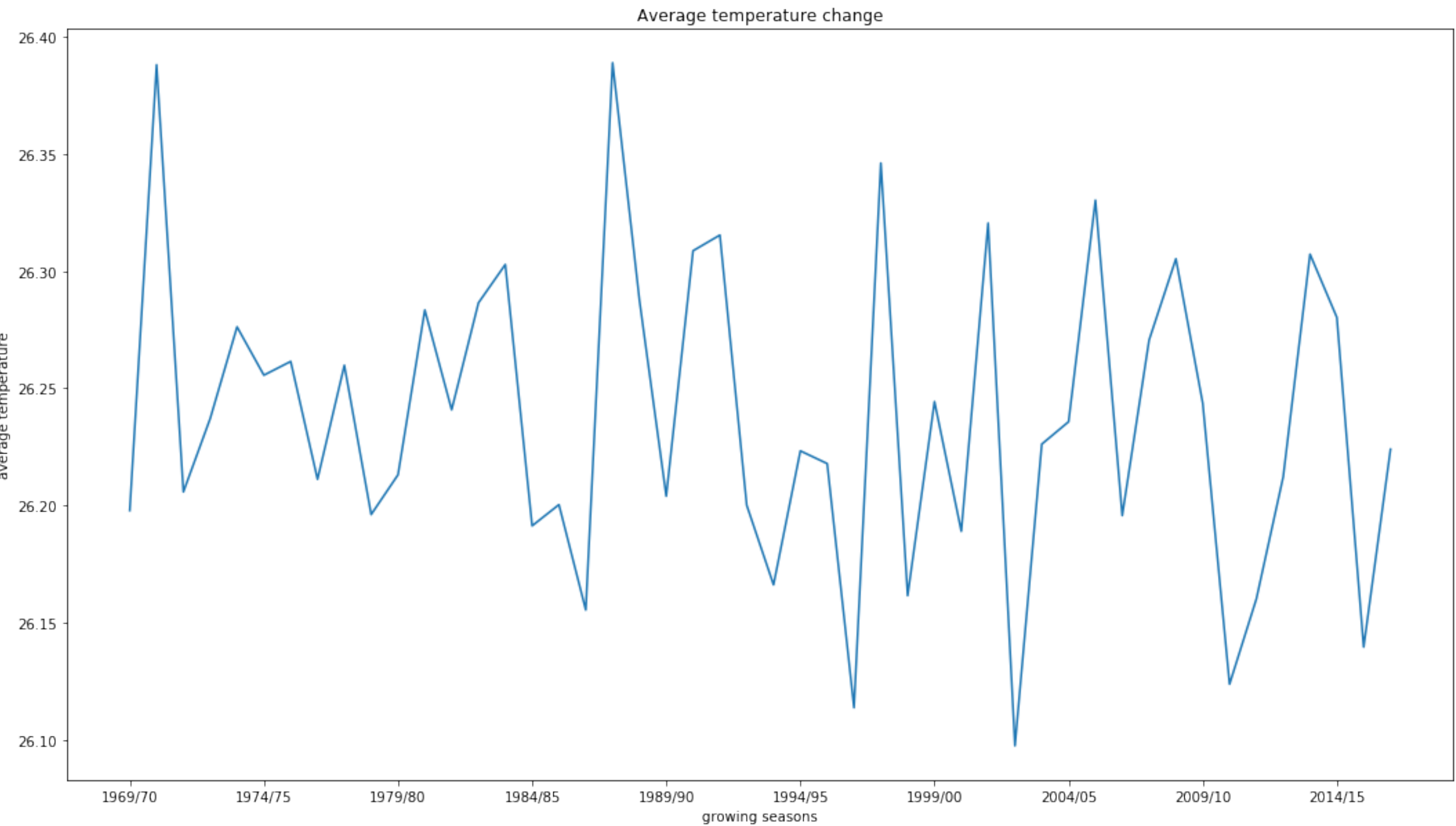
recorded area went down
→ perhaps fault of the
dataset

1. How did agriculture change over the last decades?



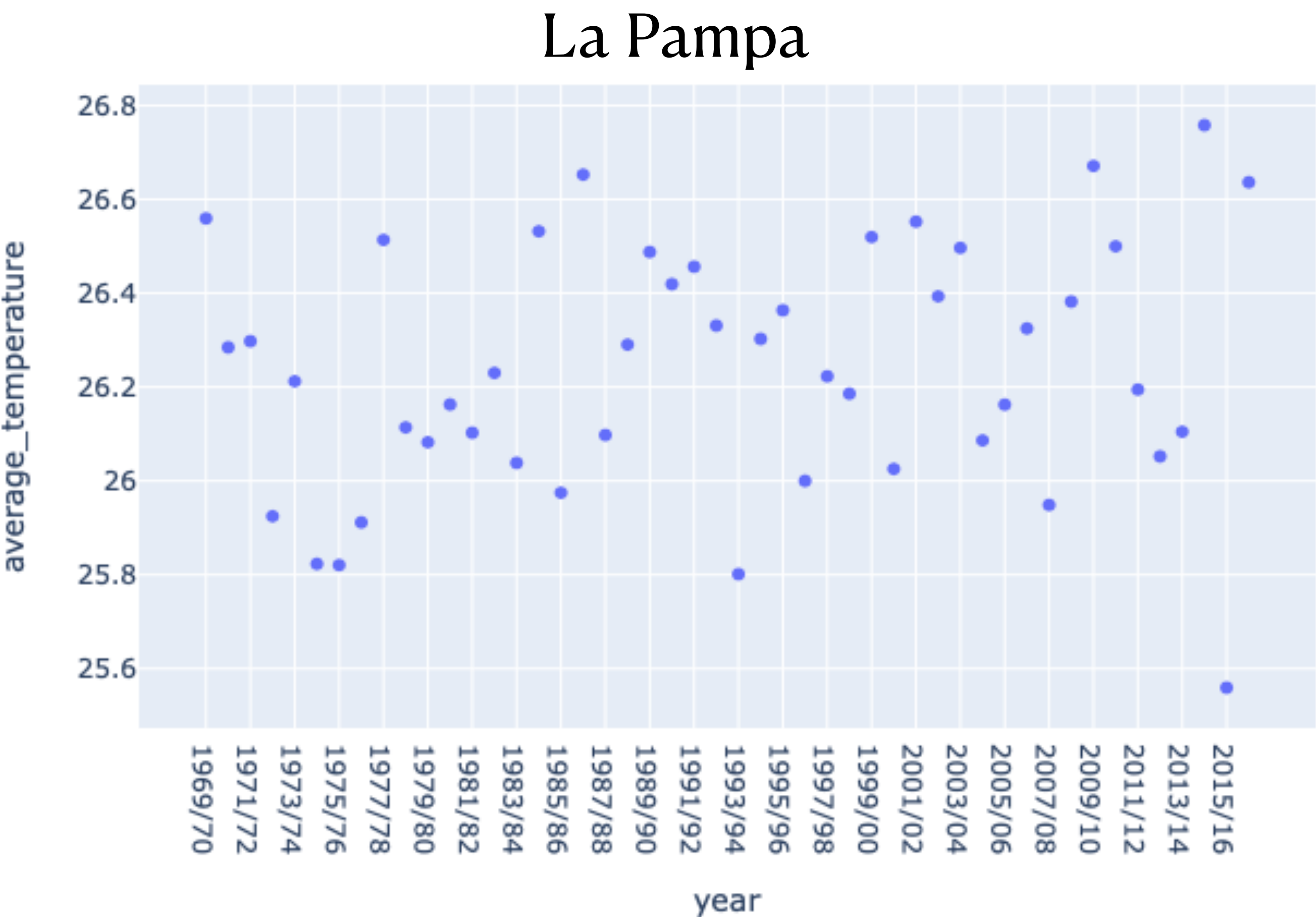
- production went up
- performance went down
- quality pretty much steady
- average area used went up significantly since 2000

2. Did average temperatures change over the last decades?



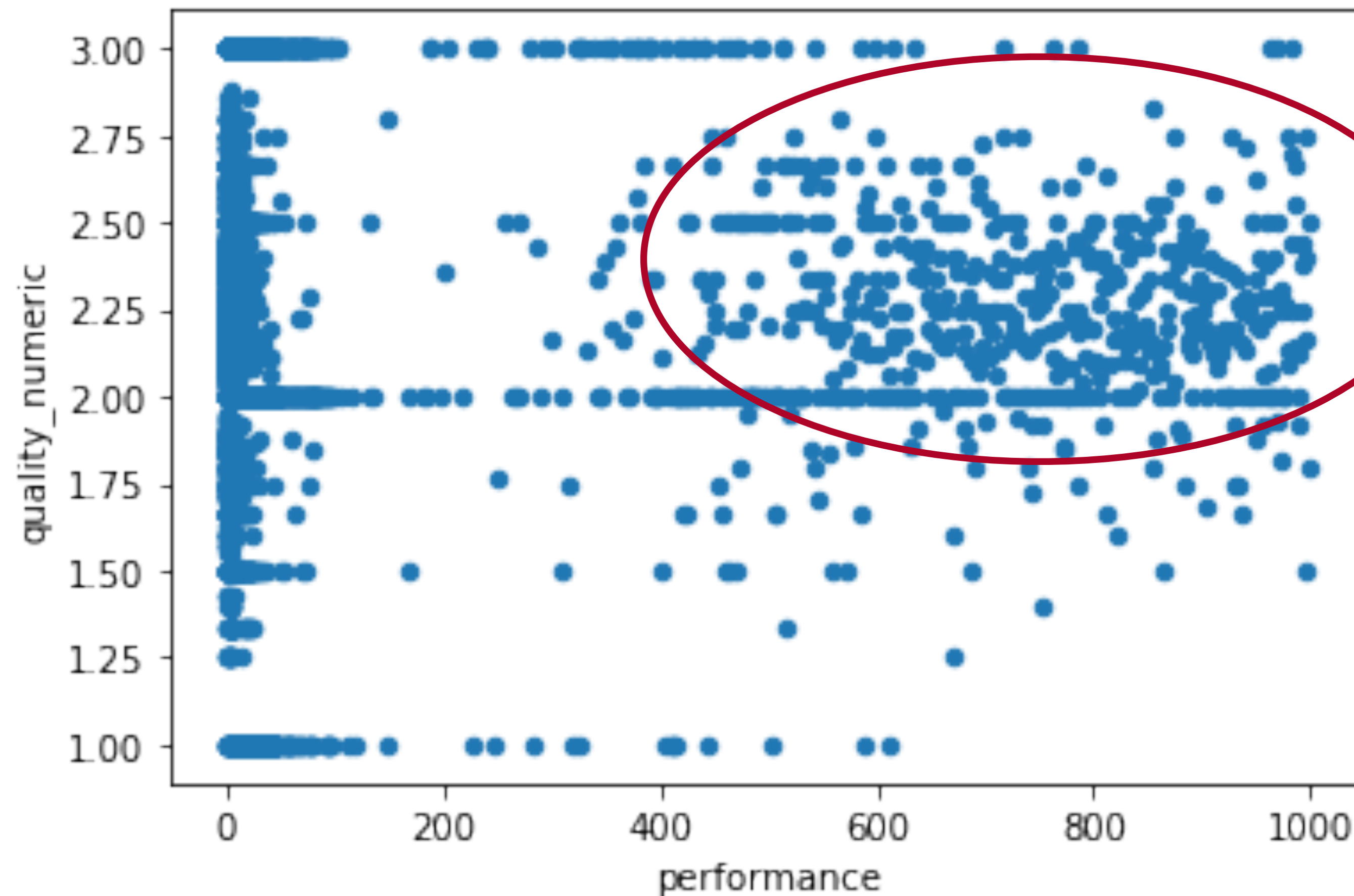
no discernable change in
temperature averaged over all
of Argentina

2. Did average temperatures change over the last decades?



Example: three out of four highest average temperatures in the last 10 years in La Pampa

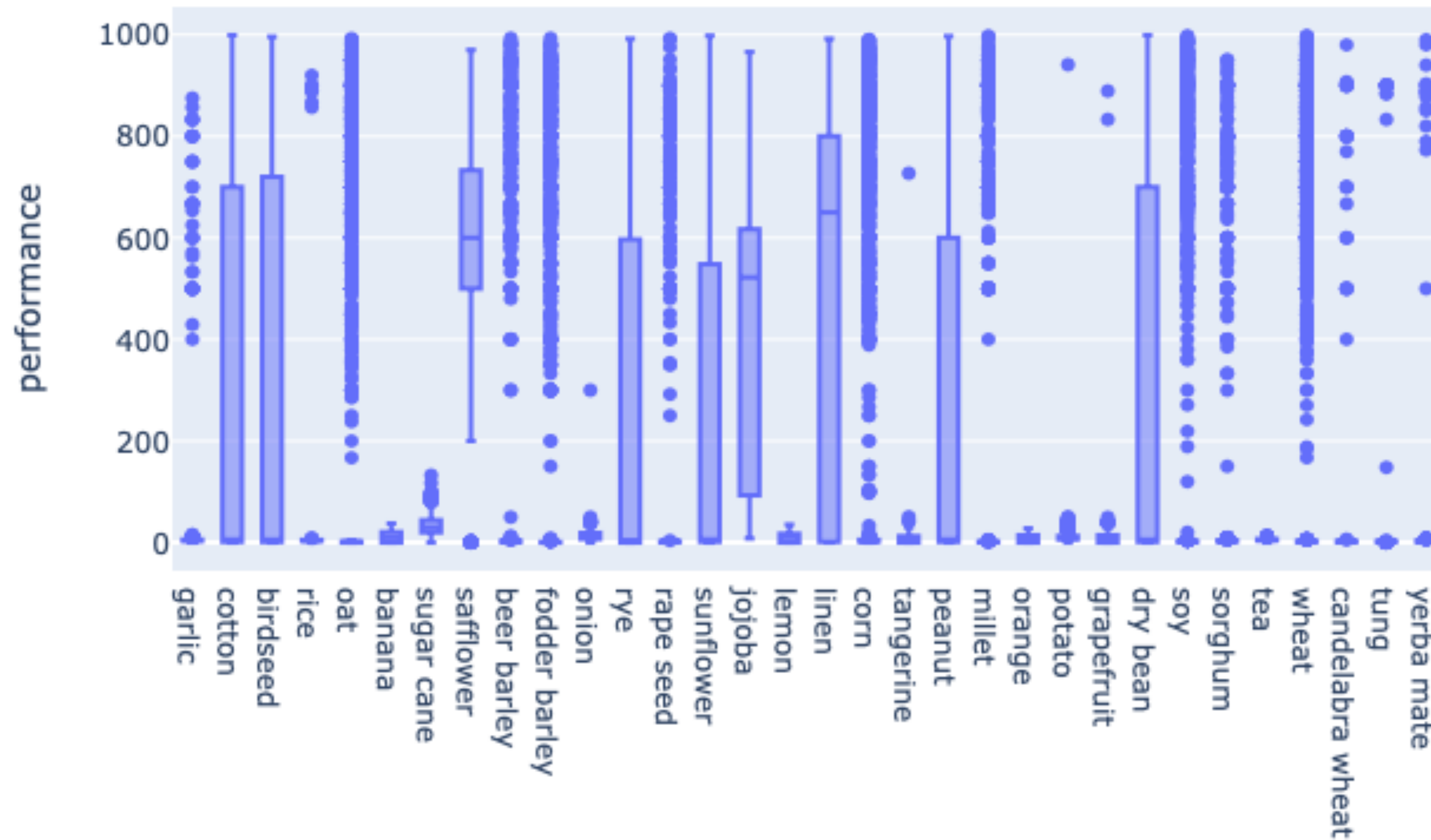
3. Does higher performance effect the quality of the crops?



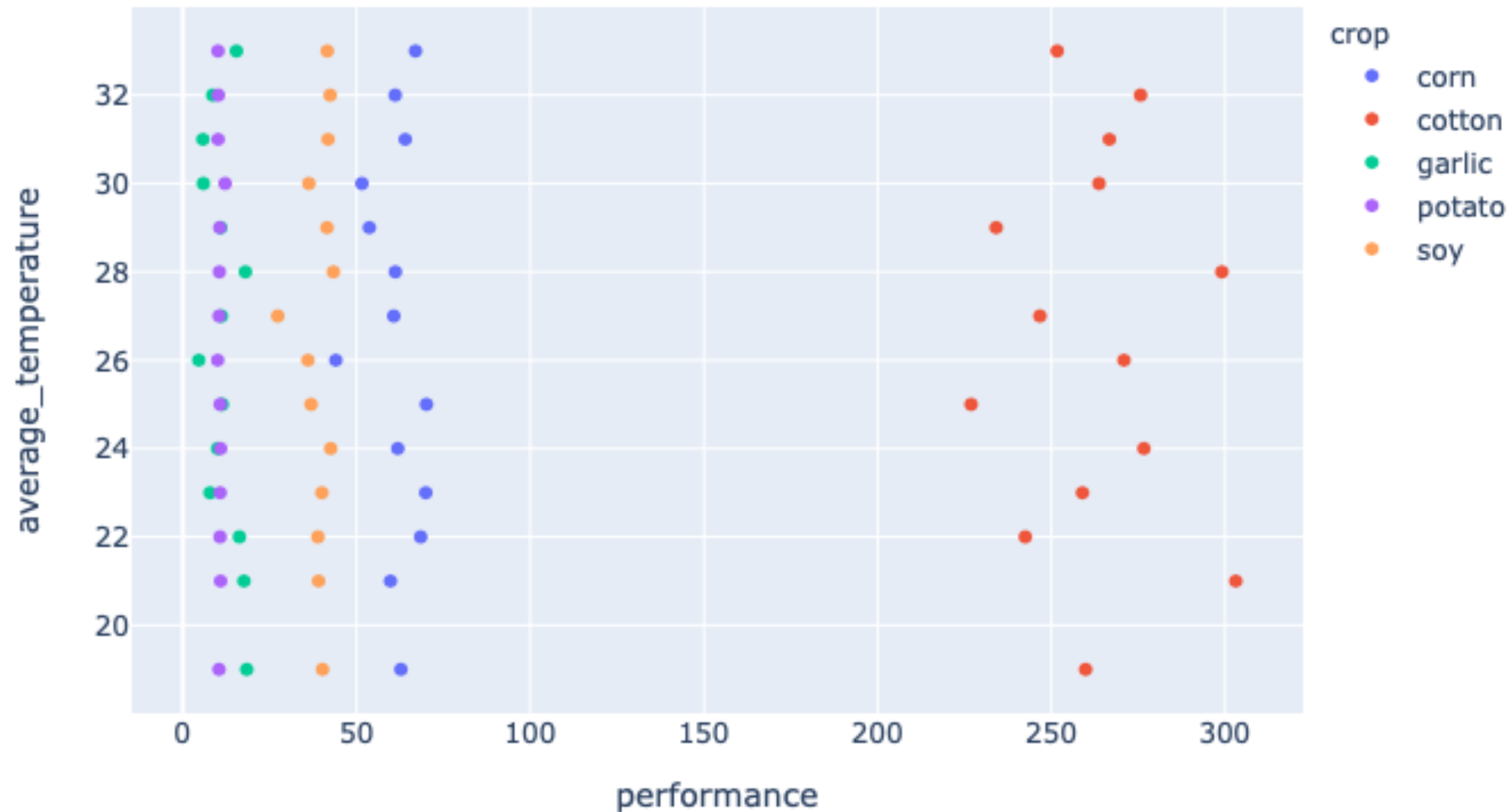
high performance correlates
with high quality

4. At which average temperatures do crops flourish and produce high yields?

Crop Performance Overview



4. At which average temperatures do crops flourish and produce high yields?

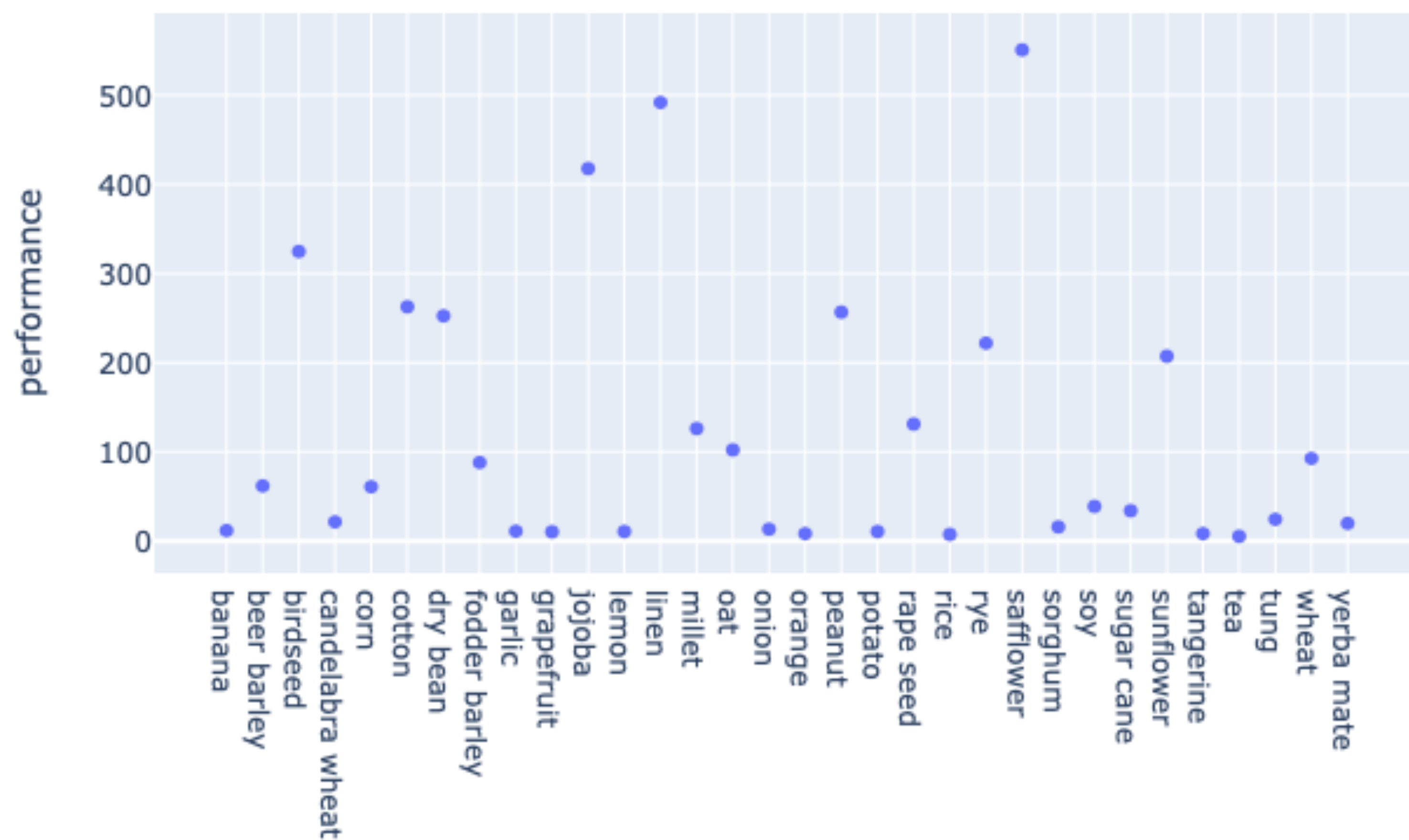


Selected crops:

most crops are pretty constant regarding their performance at various temperatures

(very important trait to guarantee food safety!)

5. Which crop has the best performance?



Highest performance crops are:

- safflower
- linen
- jojoba

Machine Learning

40%

probability to predict quality given average temperature, production and performance

Machine Learning

Algorithm	Score
Random Forest Classifier	0.3999
Logistic Regression	0.3955
Support Vector Machines	0.4012
Neural network	0.4014

Thank you

