

Bahiagrass Referee

Prepared and Presented by
Lan Chi Trinh, CSA/Seed Marketing Specialist
Lan-ChiN.Trinh@ams.usda.gov

USDA, AMS, LPS, SRTD



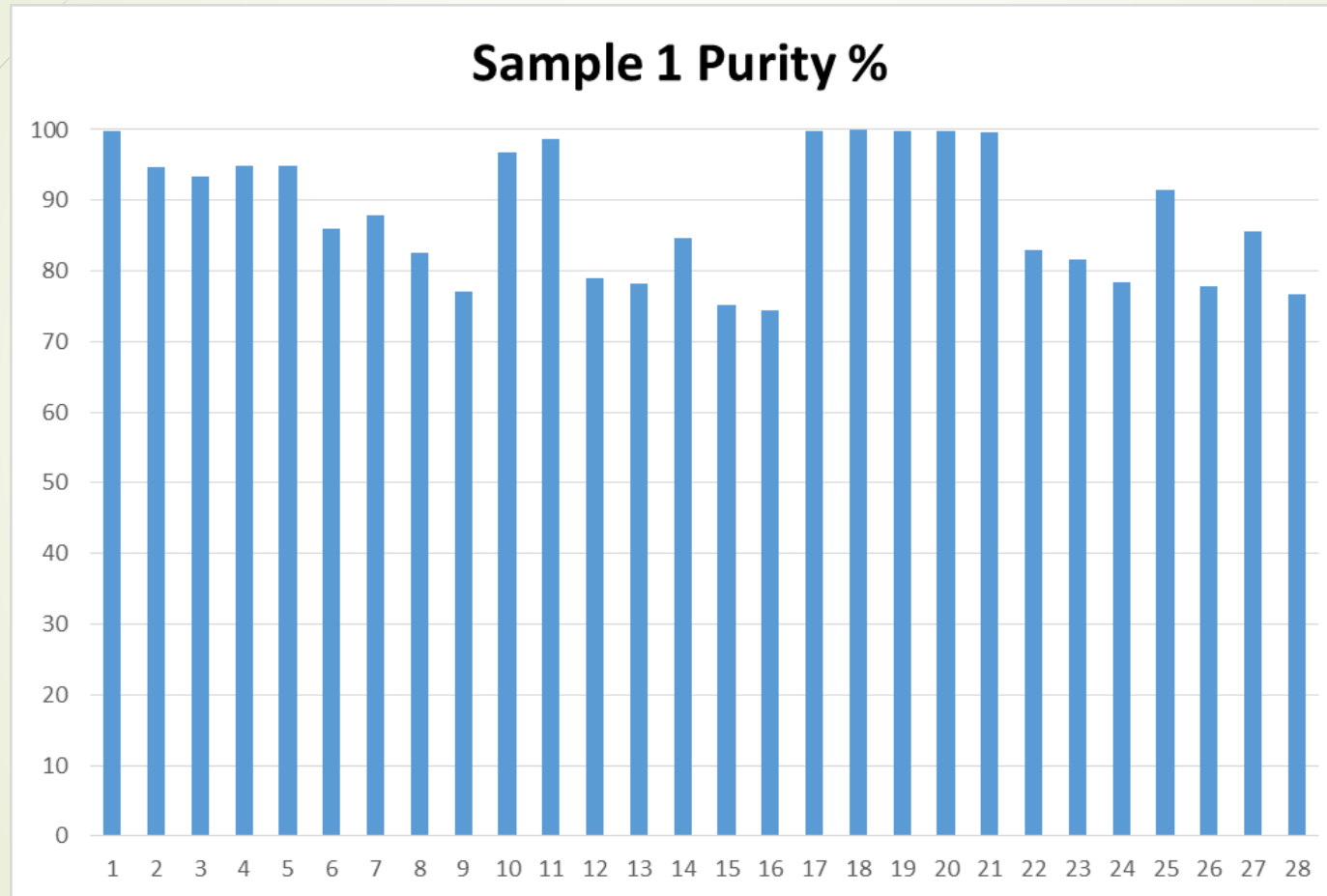
Objectives

Looking for uniform, sufficient, and efficient testing methods for varieties of bahiagrass other than Pensacola

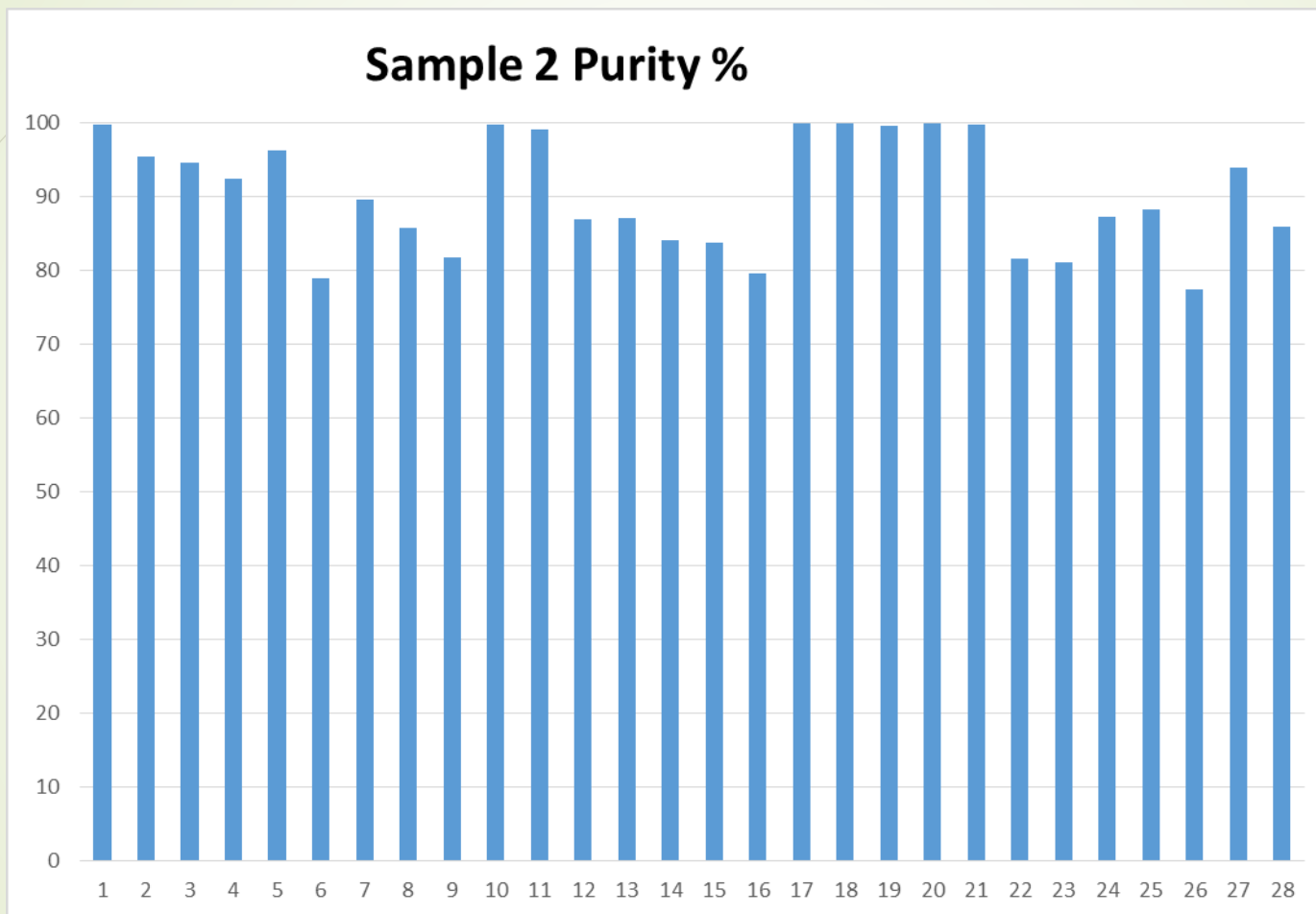
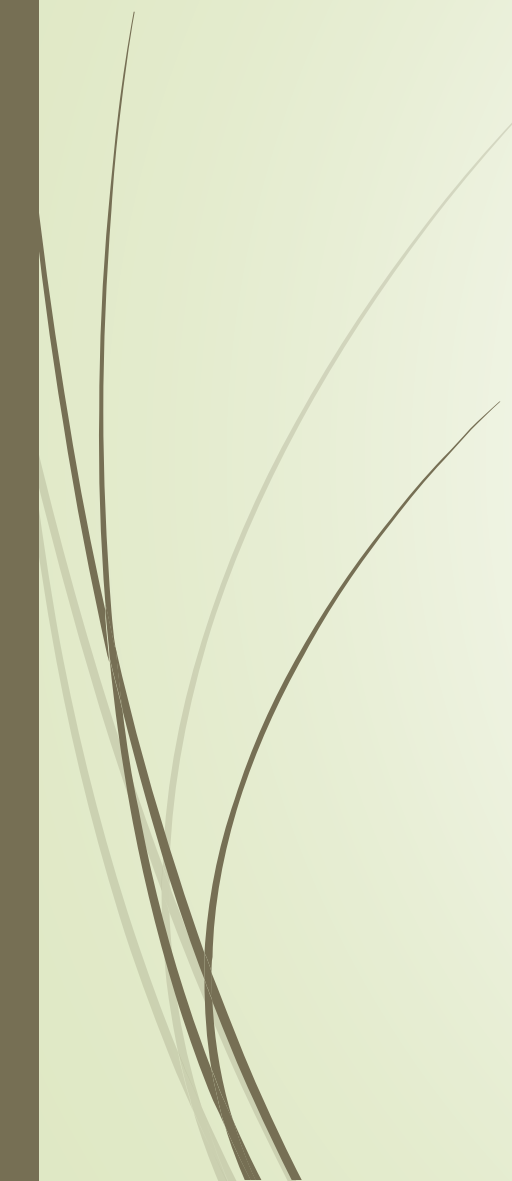
Procedures

- Each participant received 2 samples to perform both purity and germination tests.
- Sample 1:
 - Perform purity test according to AOSA Rules PSU Number 14 - caryopsis with some degree of endosperm development can be detected by slight pressure or by examination over light.
 - Plant 400 caryopses in petri dish with blotter soaked in KNO_3 for 21 days
 - Plant 400 un-hulled seeds in petri dish with blotter soaked in KNO_3 for 21 days
- Sample 2:
 - Perform purity test as follow: Floret /florets with the enclosing structures (glume, lemma, and palea) are intact, whether or not a caryopsis is present.
 - Plant 400 caryopses in petri dish with blotter soaked in KNO_3 for 21 days
 - Plant 400 un-hulled seeds in petri dish with blotter soaked in KNO_3 for 21 days.

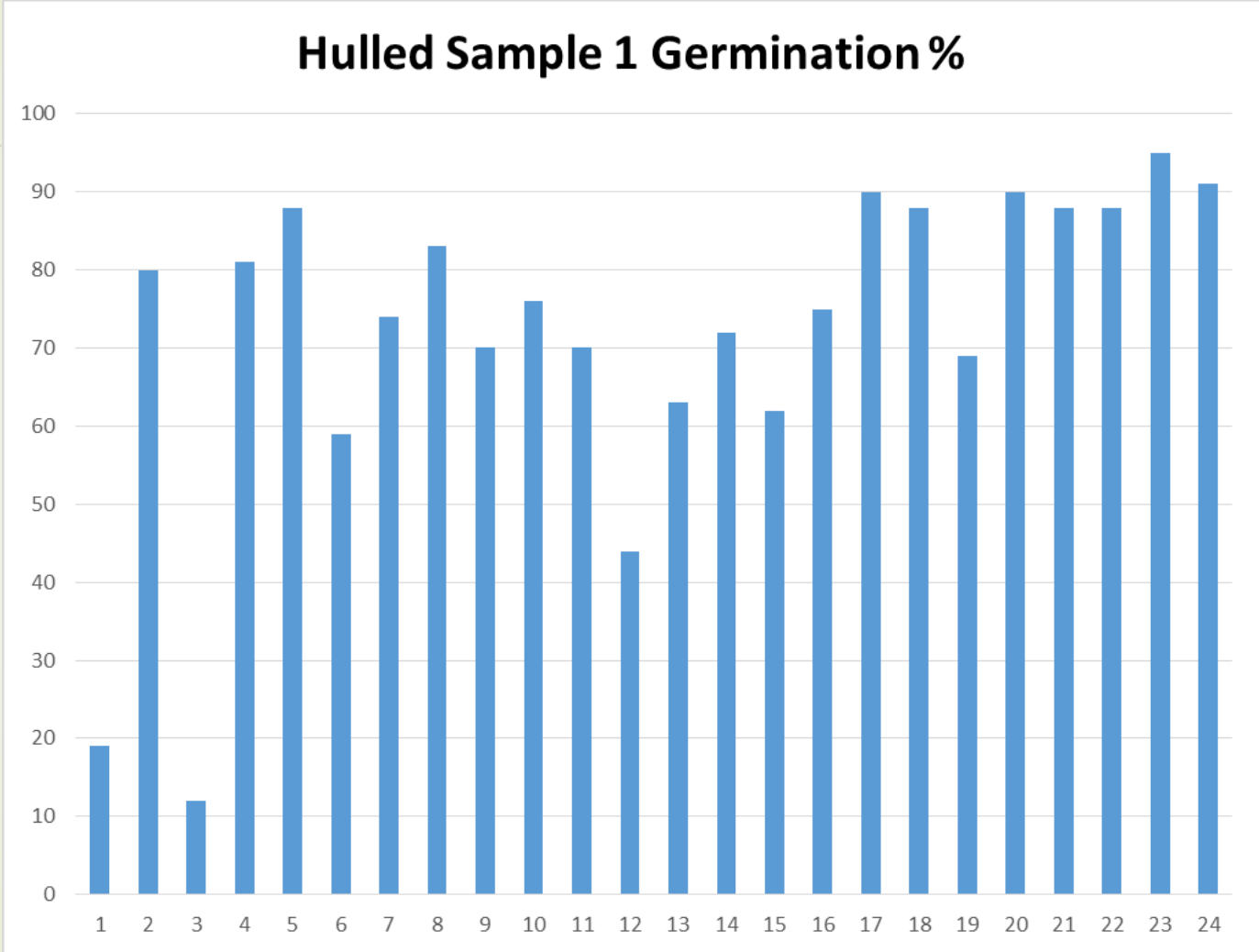
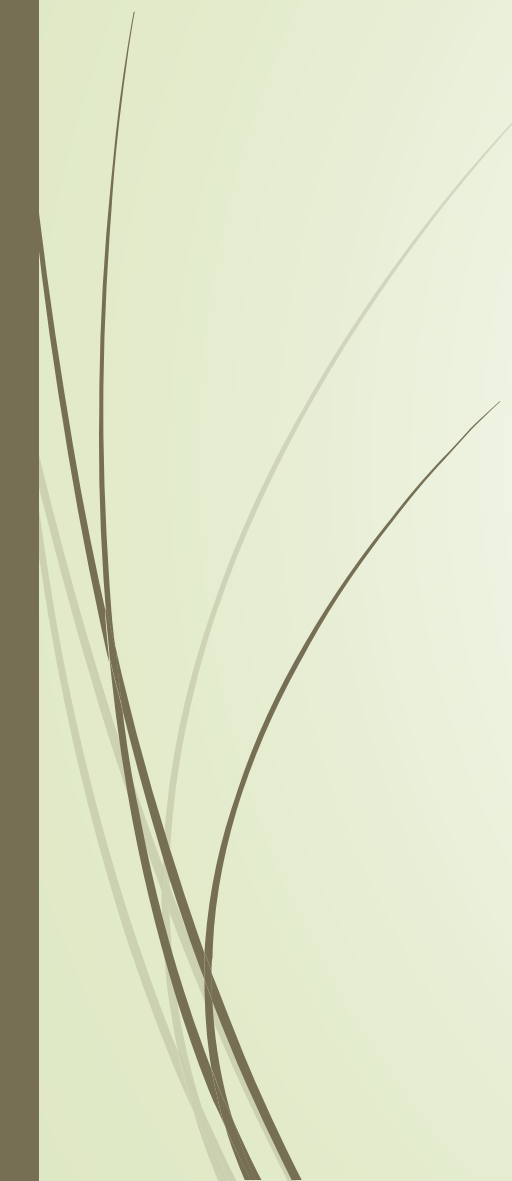
What the data says...



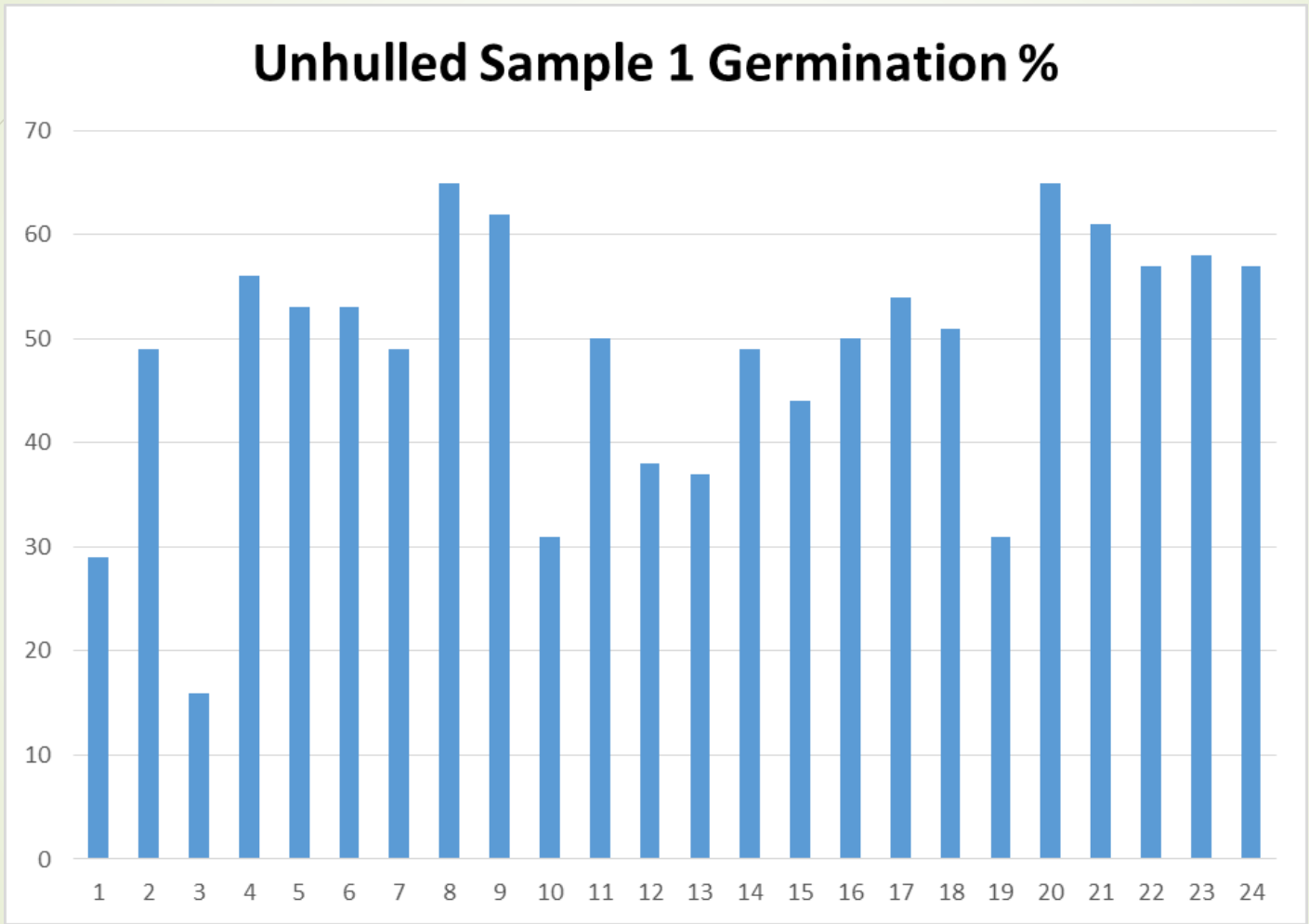
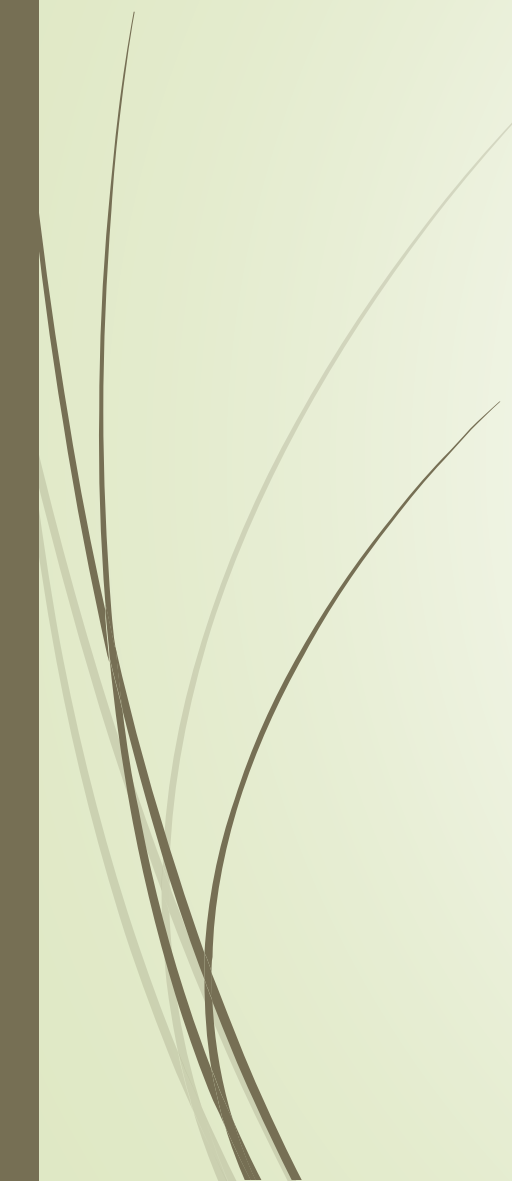
Highest: 99.76%
Lowest: 74.46%
Average %: 88.28
Median %: 86.98
Std deviation: 9.06
Variance: 82.10



Highest: 99.98%
Lowest: 77.5%
Average %: 90.39
Median %: 89.01
Std deviation: 7.58
Variance: 57.51

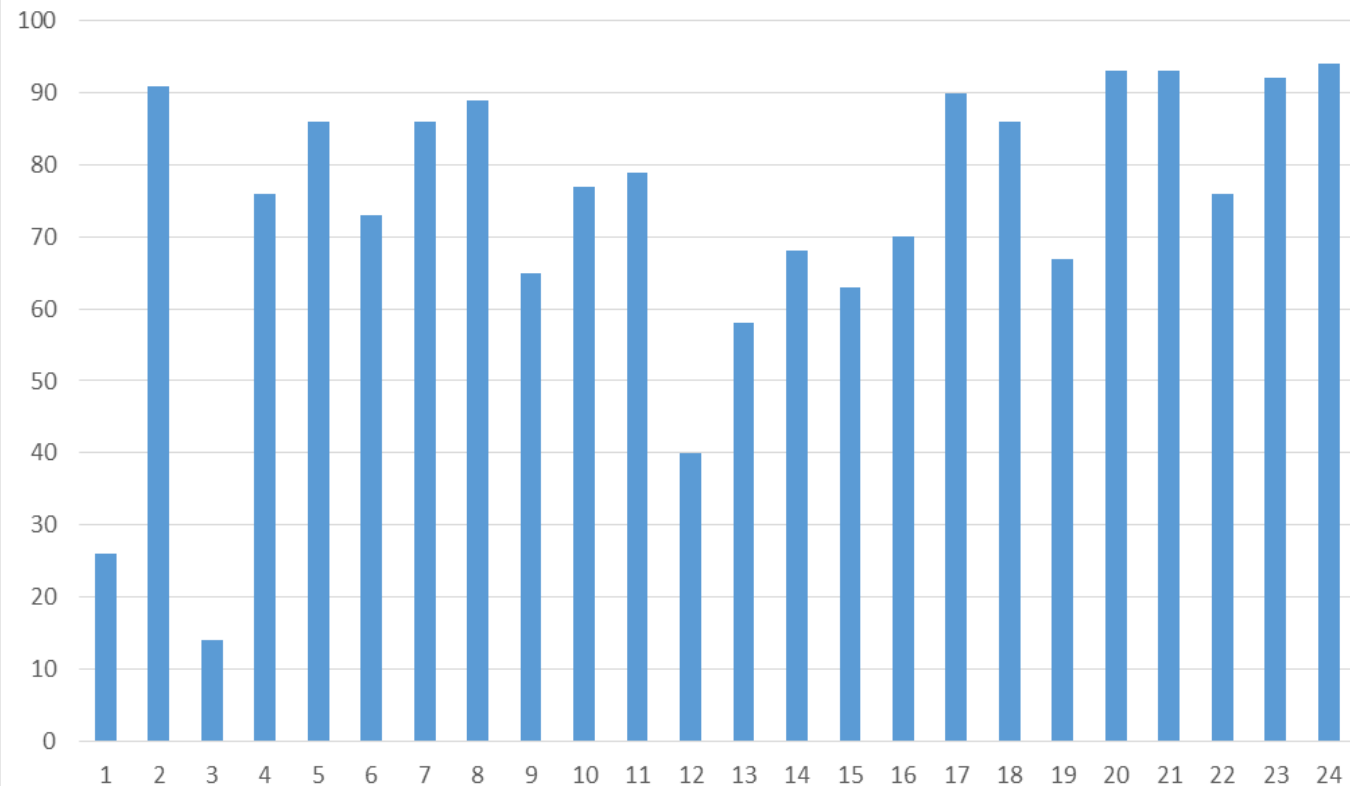


Highest: 95%
Lowest: 12%
Average: 72%
Median: 76%
Std deviation: 20.83
Variance: 434.03

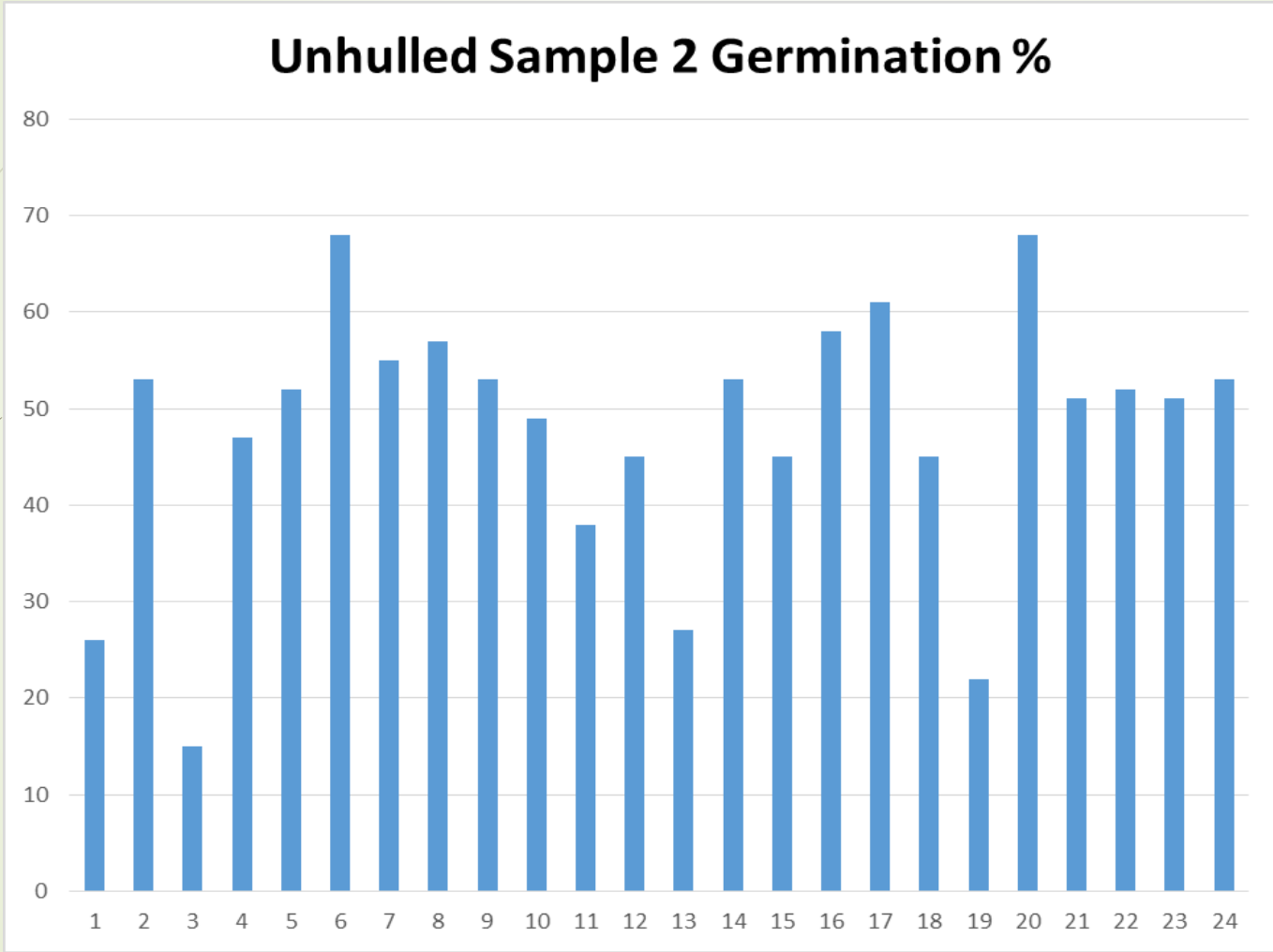
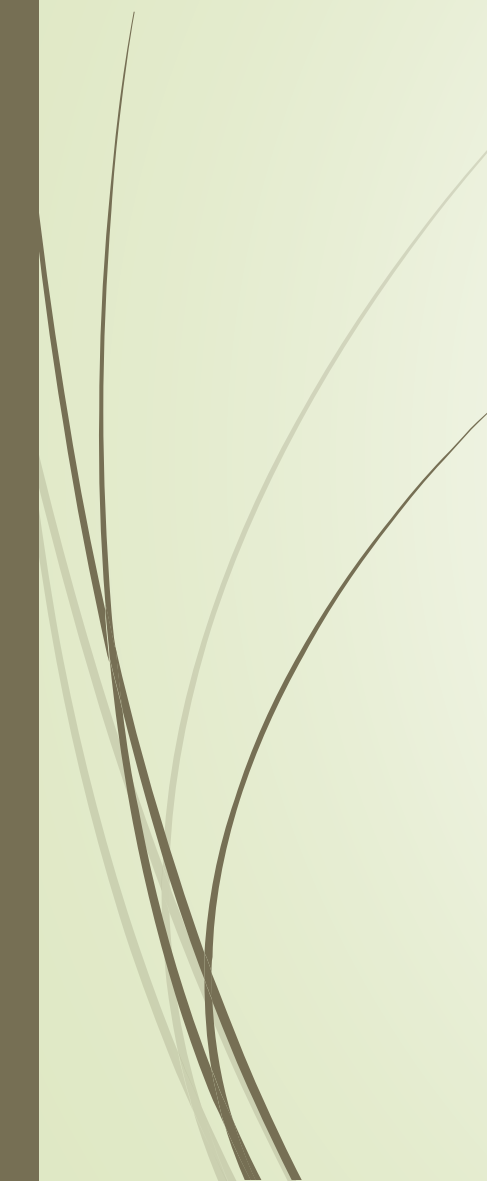


Highest: 65%
Lowest: 16%
Average: 49%
Median: 51%
Std deviation: 12.19
Variance: 148.66

Hulled Sample 2 Germination %

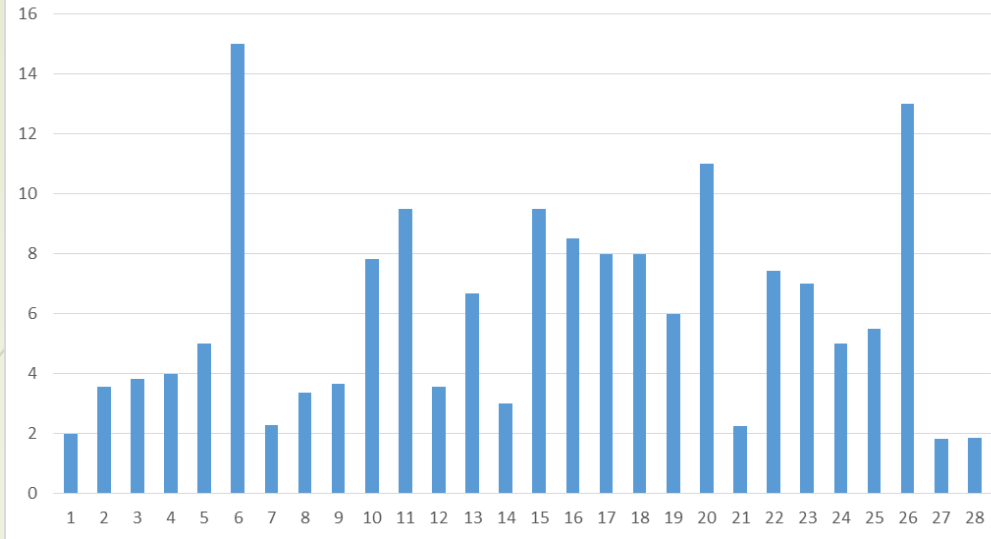


Highest: 94%
Lowest: 14%
Average: 73%
Median: 77%
Std deviation: 20.70
Variance: 428.58

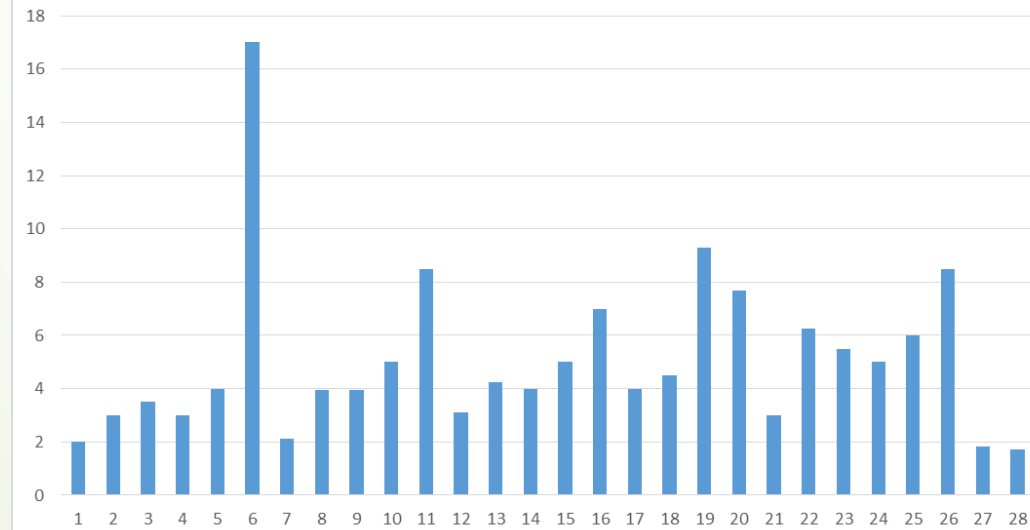


Highest: 68%
Lowest: 15%
Average: 48%
Median: 52%
Std deviation: 13.17
Variance: 173.56

De-glume Time for Sample 1

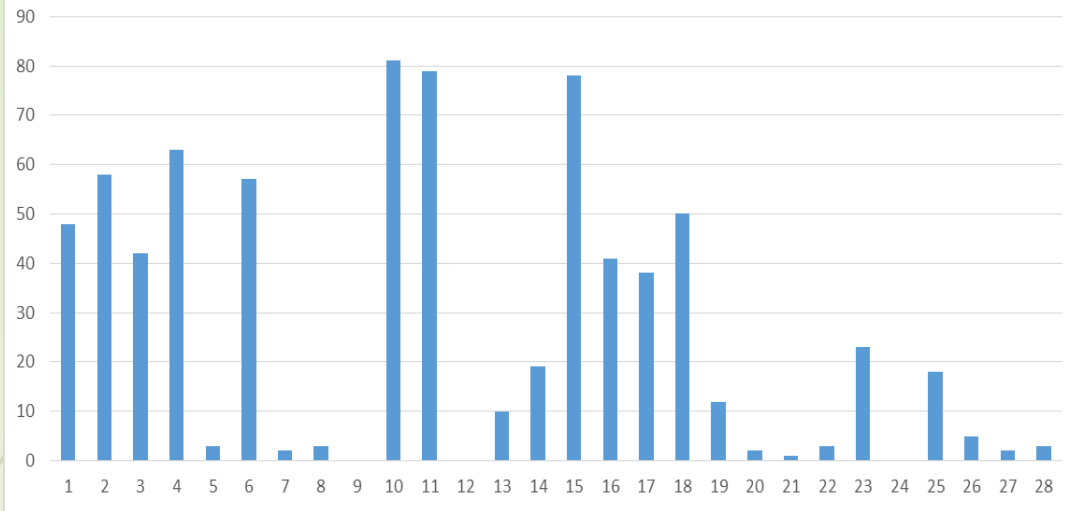


De-glume Time for Sample 2

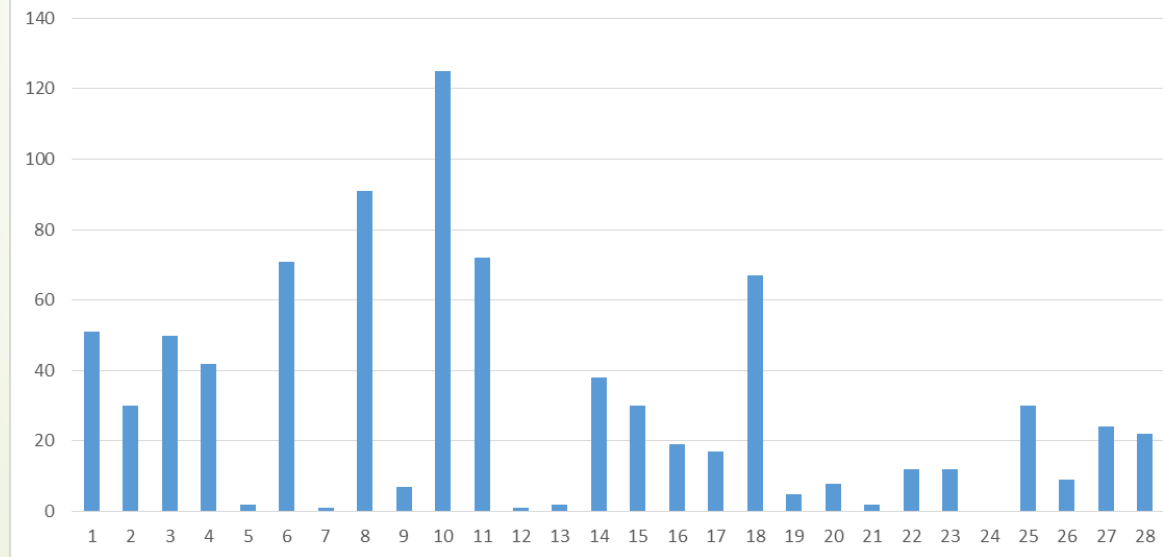


Time to de-glume 400 seeds for germination ranging from 2 hours to 17 hours

Number of Empty Floret in Sample 1



Number of Empty Floret in Sample 2



Analysts found 0 to 125 empty seeds when de-gluming 400 seeds for germination

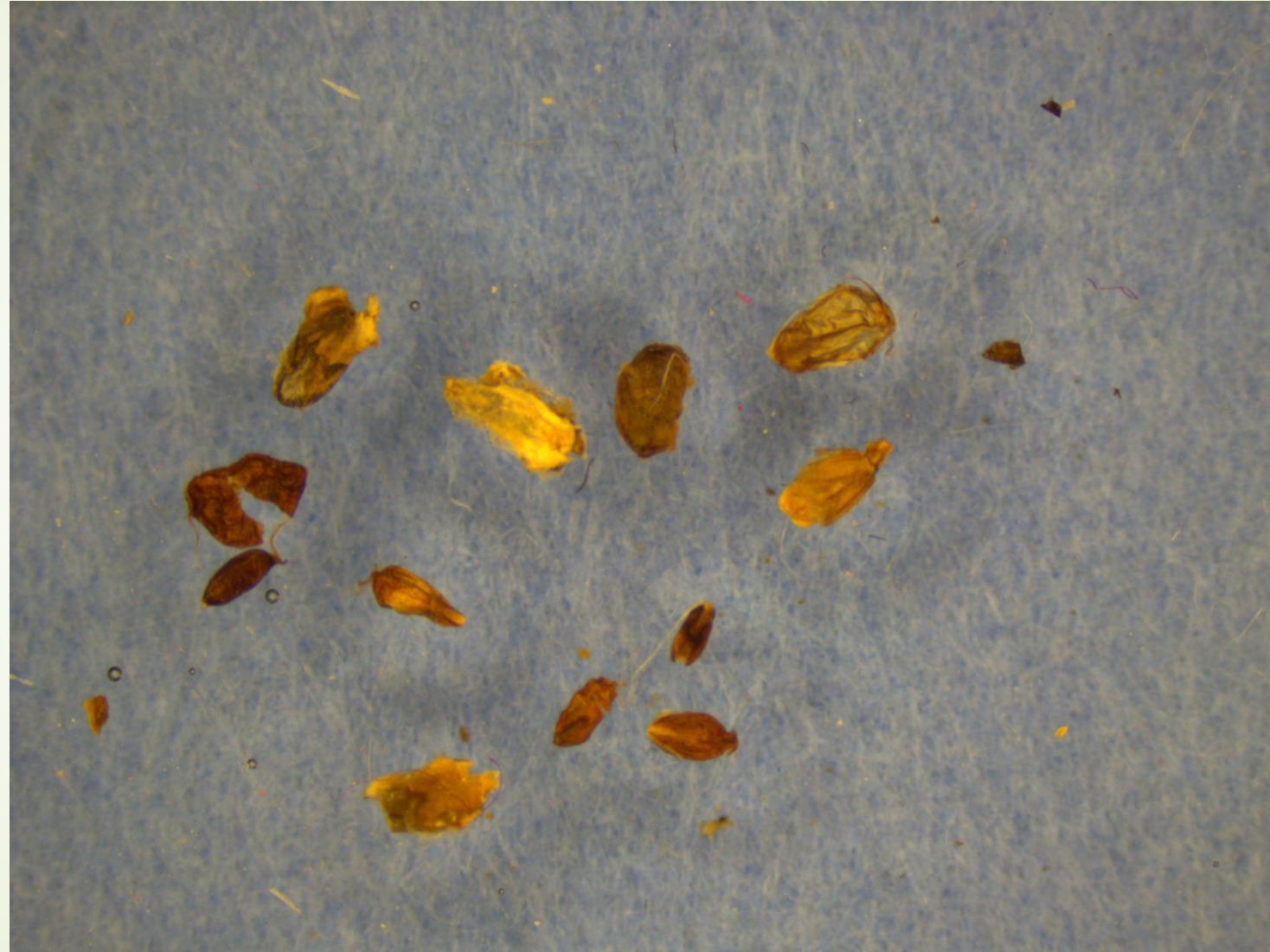
What does it mean?

- ▶ Current rule:
 - No uniformity in purity and germination
 - Time consuming
 - Can bias the germination result (de-gluming process)
- ▶ Compared method:
 - Still no uniformity in purity and germination, but less varies among analysts
 - Less time consuming
 - Less chance of biasing the germination result

Possible areas of non-uniformity ?



Room for Germination Bias?



What's next?

- ▶ Continue working on more uniform purity and germination methods
 - Referee samples
 - Participants
 - Suggestions



¿QUESTIONS?

THANK YOU!!!!

- Seedway – supplying the referee samples
- All the participants
 - CONGRATULATIONS!! You are now an expert in de-gluming bahiagrass 😊