

Tea sciencey stuff

By: M7-19

Question

- Which tea out of Earl Gray, Lemon Grass and Rooibos has the least caffeine while using gunpowder as a control?

Abstract

- I did this test to see what tea would be the best tea to have at night before going to sleep. I used tannic acid with alcohol and water to measure out about how much caffeine is in the teas. The rooibos had the least caffeine along with Lemongrass but rooibos tastes better so rooibos is the best night time tea

Hypothesis

- The Rooibos tea would have the least caffeine because it is known for that.

Materials

- Graduated Cylinder
- Test tubes
- Earl Gray, Gunpowder, Lemon Grass, and Rooibos Teas
- Tannic acid
- Alcohol
- Water

Procedures

- Put the tea leaves in the correctly labeled cups
- Boil a bunch of distilled water
- Put the boiled water into the tea cups and let them steep for an hour
- Mix 2 g of tannic acid, 2 ml alcohol, and fill the rest with water to 20 ml
- Put the mixture into the teas one drop at a time and when I see a white precipitate I write down how many drops I did.
- Repeat indefinitely

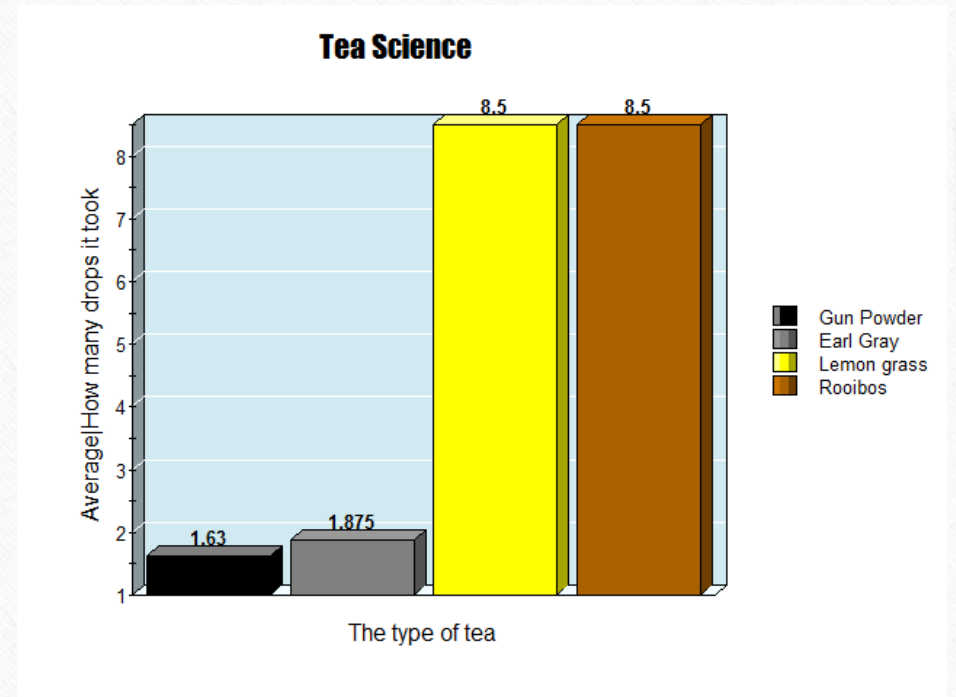
Variables

- Control- Amount of water, different mixture of the formula, the amount of tea leaves
- Independent- The type of T
- Dependent- The amount of drops needed for the caffeine to appear.

Pictures



Results (Graphs)



Results

- The Rooibos and Lemon grass tea both mostly had no caffeine
- Gunpowder: 1- 4 drops 2- error 3- error 4- 2 drops 5- error 6- 3 drops 7- 1 drop 8- 2 drops 9- 3 drops 10- 2 drops 11- error 12- 2 drops 13- 1.5 drops? 14- 1 drop 15- 1 drop 16- error 17- 1 drop 18- 1 drop 19- 1 drop 20- 1 drop
- Earl: 1- error 2- error 3- error 4- 2 drops 5- 2 drops 6- 3 drops 7- 2 drops 8- 3 drops 9- 1 drop 10- 1 drop 11- 1 drop 12- 2 drops 13- 2 drop 14- 3 drops 15- 2 drops 16- error 17- 1 drop 18- 2 drops 19- 2 drops 20- 1 drop
- Lemongrass: 1- error 2- 4 drops 3- no caffeine 4- no caffeine 5- no caffeine 6- no caffeine 7- no caffeine 8- no caffeine 9- no caffeine 10- no caffeine 11- no caffeine 12- no caffeine 13- no caffeine 14- no caffeine 15- no caffeine 16- no caffeine 17- no caffeine 18- no caffeine 19- no caffeine 20- no caffeine
- Rooibos: 1- error 2- no caffeine 3- no caffeine 4- no caffeine 5- no caffeine 6- no caffeine 7- no caffeine 8- no caffeine 9- no caffeine 10- no caffeine 11- no caffeine 12- no caffeine 13- no caffeine 14- no caffeine 15- no caffeine 16- no caffeine 17- no caffeine 18- no caffeine 19- no caffeine 20- no caffeine

Conclusions

- Rooibos is probably the best tea to drink at night because it had no caffeine and tastes pretty ok.
- I also probably shouldn't have chosen two teas known for being not caffeinated