Two wooden baseball bats are crossed in an 'X' shape against a white background. The bats are light brown with darker wood grain and are positioned diagonally. The text is centered over the intersection of the bats.

Which baseball bat will hit the
ball the furthest? (Marucci
Pastime Cat9 or Victus Nox)

Introductions/Research

Bat digest matched up the Cat9 and the Victus Vandal. When they did the experiment they were interested in the outcome. In the end the Cat 9 won, beating the Vandal by 2.2 miles per hour. (Please see reference slide)

In “Wood vs Aluminum Bats” they talk about how wood is superior compared to metal baseball bats. It says that wooden baseball bats are more balanced and allow the hitter to have a more easy swing and smooth contact through the ball. According to “Wood vs Aluminum Bats: Which Is Better?” The wooden bats are better than the aluminum bats. (Please see reference slide)

According to Bat Gigest, “If we isolated the 3rd best hit for each bat, we found the CAT 9 outperformed the Vicuts Vandal by 2.2 mph.” (Please see reference slide)

According to Phoenix Bats, “A well-made wood baseball bat is better balanced than any metal bat. Balance gives you a more steady, controlled swing and drives the bat through the ball.” (Please see reference slide)

Statement of the Problem

The purpose of this experiment is that I want to know what baseball bat is the best so I know which one to use. I became interested in this because I am on a travel baseball team and I would like to know which bat is better to use and I also want others to know what bat is better to use.

Question/Problem

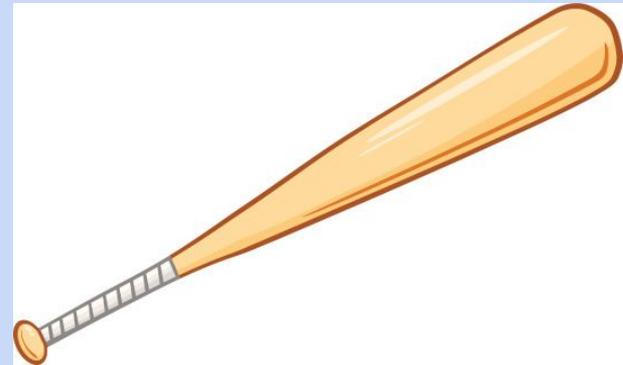
In this experiment I will be testing which baseball bat company will hit the ball the furthest, Marucci or Victus

Hypothesis / Predictions

I hypothesize that in this experiment, the Victus Nox will hit the ball the further than the Marucci Pastime Cat 9 because of my personal use of the two bats.

Variables

- Independent-Different type of bats(marucci cat 9 pastime vs. victus nox)
- Dependent- The distance the ball rolled after contact with the bat (ft)
- Constants-I will keep the baseballs and force of the baseball the same.



Materials



- 2 bats, 1 Marucci Pastime Cat9 bat Bbcor (31in) and 1 Victus Nox bat USSSA (32in.)*note they don't have to be those two bats, they can be any two bats you want*
- 1 Pitching Machine(BP3)
- 1 bucket of rubber balls to be safe Rubber baseballs (Bayden 5 in.)
- Indoor facility/baseball field
- Baseball clothing attire (Athletic wear)
- 2 Metal cleats/spikes or turfs/rubber
- Safety wear(helmet)
- Measuring tape (measures in ft. but make sure you convert to cm. or in.)
- Volunteer assistance was my dad and my coach

Procedures

1. Go to the indoor facility/baseball field
2. Gather materials; Marucci(31in. BBCor) and Victus(32in. USSSA) baseball bats, one bucket of rubber baseballs, pitching machine(BP3), measuring tape, logbook.
3. Make sure you put your cleats and safety wear
4. Choose which bat you will bunt with first
5. Get in the bunting position and wait to hit the ball
6. Mark a spot on the ground so that you are always in the same position when bunting and make sure the angle of the bat never changes.
7. Turn the machine on to 58 mph.
8. Put one ball at a time in the back end of the machine to load it up.
9. Bunt the ball when pitched.
10. Measure the distance of the ball from when it hits the bat to where it rolls to(we measured in feet and inches cause we forgot to measure in centimeters).
11. Switch the bats
12. Repeat the steps for the next bat(steps 5-10)
13. . Log everything in your logbook on your computer



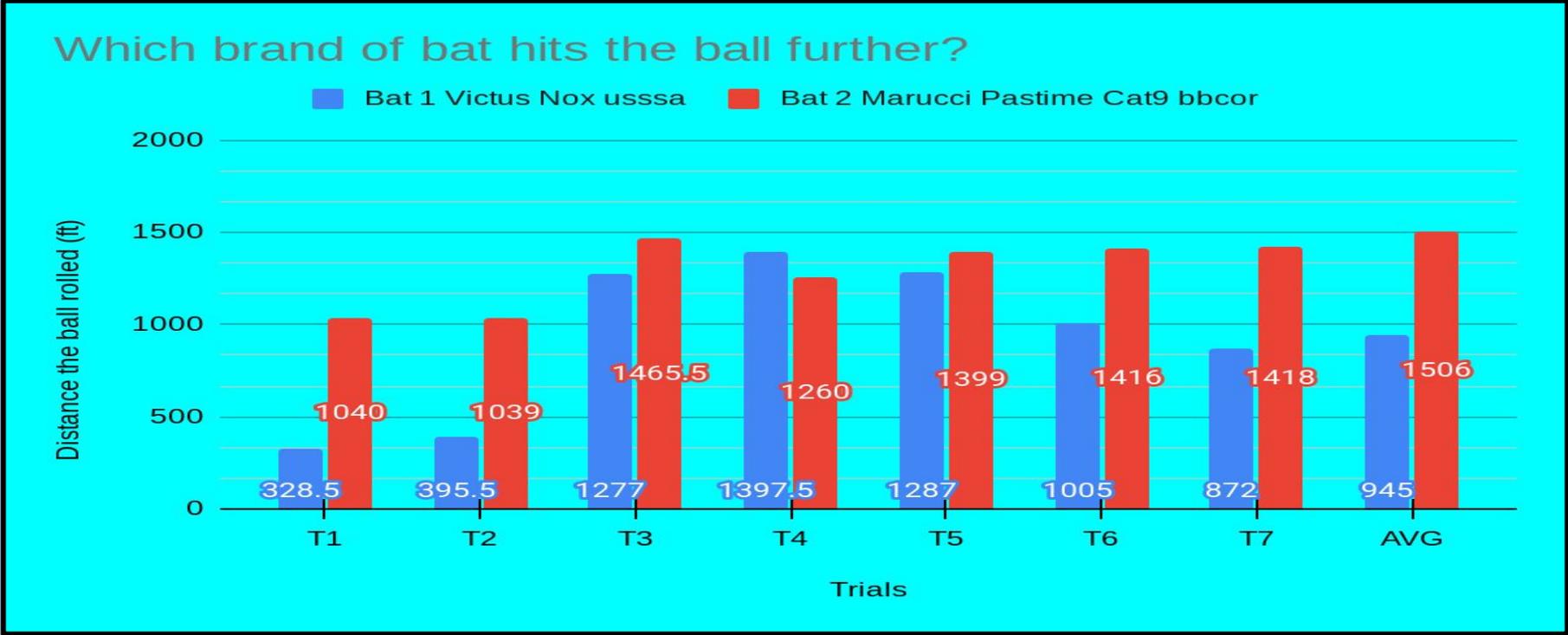
Results and Data

The results of this experiment were surprising. In trial 1 The Marucci Pastime Cat9 Hit the ball 1040 inches or 86 feet 8 inches and the Victus Nox hit the ball 328.5 inches or 27 feet 4.5 inches. In the second trial the Marucci hit the ball 1039 inches or 86 feet 7 inches and the Nox hit the ball 395.5 inches or 29 feet 11.5 inches. In the 3rd trial the Cat9 hit the ball 1465.5 inches or 122.5 inches while the Nox hit the ball 1277 inches or 106 feet 5.5 inches. In trial 4 the Cat9 hit the ball 1260 inches or 105 feet and the Nox hit the ball 1397.5 or 116 feet 5.5 inches. In the 5th trial the Cat9 hit the ball 1399 inches or 116 feet 7 inches and the Nox hit the ball 1287 inches or 107 feet 3 inches. In the 6th trial the Cat9 hit the ball 1416 inches or 119 feet 3 inches. In the final trial, trial 7, The Cat9 hit the ball 1418 inches or 119 feet 5 inches. After averaging my results for the seven trials, it turned out that the bbcor hit the ball further than the usssa bat with the average distance of the bbcor being 1506 inches and the average of the usssa being 945 inches. With this information I now know that bbcors are better than usssa and that I should start to use the bbcor more.

Results: Data Table

Bats	T1	T2	T3	T4	T5	T6	T7	Average
Bat 1 Victus Nox usssa	27 ft. 4.5 in.	29 ft. 11.5 in.	106 ft. 5.5 5 in.	116 ft. 5.5 in.	107 ft. 3 in.	87 ft. 11 in.	72 ft. 8 in.	78.75 ft.
Bat 2 Marucci Pastime Cat9 bbcor	86 ft. 8 in.	86 ft. 7 in.	122 ft 1.5 in.	105 ft.	116 ft. 7 in.	119 ft. 3 in.	119 ft. 5 in.	125.5 ft.

Results: Data Graph



Conclusion

For this experiment, my hypothesis was contradicted. One reason why my experiment was a success was because I was not rushing anything and made sure that I was ready to bunt before each pitch. Another reason my experiment was successful was because my dad was there to help me out and make sure I was not rushing and was making me take my time between each pitch. This experiment told me that the bbcor Marucci Pastime Cat9 is better than the usssa Victus Nox. This experiment proved that bbcor bats are better than usssa bats and it also proved that I should use bbcor bats instead of usssa bats. Two things I would change if I did this experiment again would be to add another bat. Maybe a wooden bat should've been used with the bbcor and usssa bats. Another thing I would change would be adding more trials to give a better sample size.

Implications and Ideas for Future Research...

I would have a larger sample size by adding more trials and an extra bat, a wood bat so I can really find out what type of bat is better, bbcor, usssa, or woodies.

References

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