CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
S0221

Project Title
Which Blade Design Is Most Efficent?

Abstract

Objectives/Goals
Some of my objective is to prove that their is more than using electriity and solar power. However, as you will learn windmills are some of our best invention we could possibly could of thought of. My goal is to see if the wind speed from different numbers of blades will affect the wind speed produced by a motor.

Methods/Materials
I am using a motor so that I would place the windmill in the compartment so I can test the wind coming from it. I will use a meter to test m/s and mph. In addition I will change the wind shear in order to test and see if the angle of the wind will also change it. Thier are a total of six diffrent numbers of blades. the numbers are:two, three, five, six,ten, twelve, fourteen, and fifteen. Each blade will also be angled differently to make this project more intresting as well.

Results
I found out that when changing the angles of the blades, you also can create the wind speed to either go forward or backward. Doing this was tricky, but it also led me to discover that even the most slightest change in the blades can make the wind speed go eratically. The fastes windmill was the windmill with two blades and the slowest was the windmill with fifteen blades. All the other blades did show signs of a reading, but both windmills' two and three showed the most readings by far.

Conclusions/Discussion
In conclusion, my hypothesis was proven false, but i did learn a lot from doing this project. Not only did I learn from my experiment about the angles of the windmill, but also I still love science. The windmills probably reacted like this because air needs to be supplied undrneath the windmills and not enough was between the windmill with fiffteen blades. For example, our windmills have three blades wich is probably a good idea since the windmill with three blades was also high. I hope to cotinue on with sience and do hard work on every science project at me, but until then I will work on windmills and sience.

Summary Statement
I am testing to see if windmill designs will change the speed.

Help Received
Linda helped editing, and robrt helped getting the material.