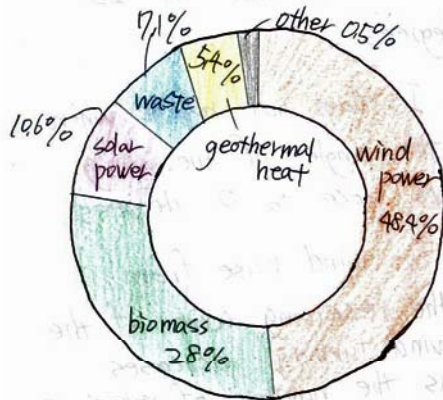


Renewable Energies of the World.



Wind Power Generation in Aomori Prefecture

The total installed capacity of wind power in Aomori is ranked first in the country as of March 2013. Aomori's environment and wind power generation make the best chemistry!

Reference: Best in Japan!
Wind power generation in Aomori.

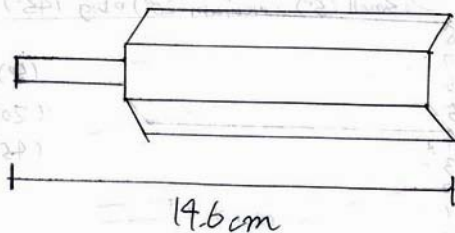
Current State

Determine the best angle of the blades for the best power generation.

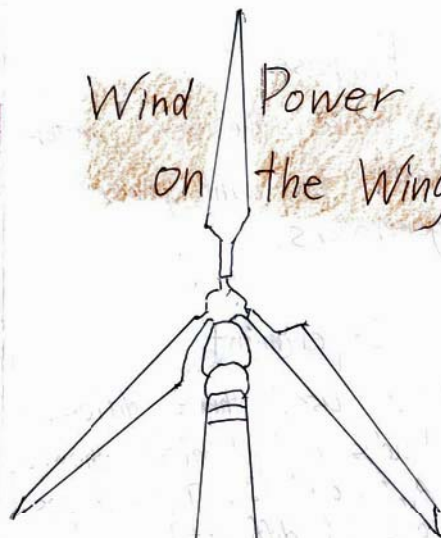
We are creating parts to connect the blades with the wind turbine for 0, 20, 40, 60, and 80 degrees.

Other conditions are considered for attaching the purchased blades.

< Assembly drawing >



Wind Power on the Wing.



15-01

HIROSAKI MINAMI
HIGH SCHOOL

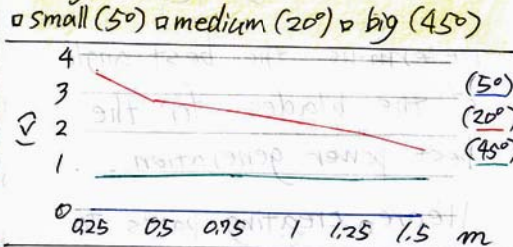
Purpose

To make the best motor blades for wind power generators.

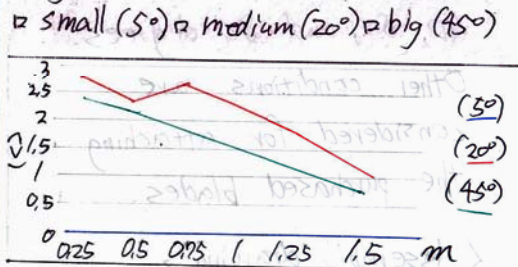
Experiment

1. We used three different blades and labeled them A, B, and C. Their shapes are all different.
2. We put an electric fan on a level table and set it to max power.
3. We measured from 0.25m to 1.5m each time, changing the angle each time.
4. We judged the differences of generation efficiency by the voltage of the motor.

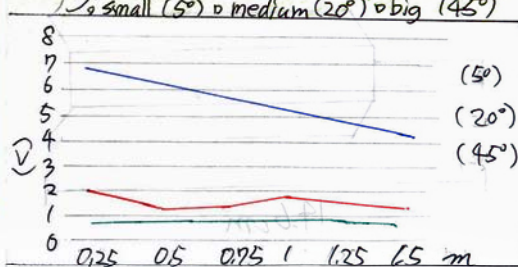
Difference of voltage from angle blade A



Difference of voltage from angle blade B



Difference of voltage from angle blade C



Result

1. The angle of the wing rotates the most at 20 degrees.
2. It does not rotate when the angle of the wing is close to 0 degrees.
3. The wind noise from the receiving axis of the wind turbine increases as the number of rotations of the wing increases.

Summary

The best motor blades for wind power generators are blade C.