

## Arabidopsis basics

### Why use Arabidopsis in the classroom?

- *Arabidopsis* is a research model organism for studying plant biology and genetics.
  - *Arabidopsis* is a small plant (so you can grow lots in a small space)
  - *Arabidopsis* has a fairly short life cycle (2-3 months from seed to seed)
  - *Arabidopsis* produces many seeds per life cycle (therefore it is easy to propagate)
  - *Arabidopsis* growth conditions are fairly simple (though its not always easy to grow this plant)

These are NOT Fast Plants. Fast Plants (Wisconsin or Carolina) are related to *Arabidopsis* but have been bred to grow quickly and have visibly distinguishable phenotypes. Plant researchers do not study Fast Plants. Fast Plants were developed for educational purposes.

### Additional reasons that researchers study Arabidopsis.

- *Arabidopsis* responds to stress similarly to crop plants (so your classroom findings may be relevant to an economically important plant)
- The entire *Arabidopsis* genome has been sequenced. Therefore scientists know a great deal about the genetic makeup of *Arabidopsis*. Approximately 25,000 genes have been annotated in *Arabidopsis* but many have unknown functions.
- There are publicly available mutant plant lines for studying gene function.
- *Arabidopsis* is easily transformed and regenerated (you can manipulate the genome)

## Basic resources for learning more about Arabidopsis.

[www.prep.biotech.vt.edu](http://www.prep.biotech.vt.edu)

<http://www.Arabidopsis.org/>

TAIR: The *Arabidopsis* Information Resource  
click on *Arabidopsis thaliana* in the first paragraph

<http://www.aspb.org/publications/Arabidopsis/>

The *Arabidopsis* Book - an online, free access book of published *Arabidopsis* review articles.

<http://en.wikipedia.org/wiki/Arabidopsis>

## Really cool videos to get your students excited about plants.

<http://plantsinmotion.bio.indiana.edu/plantmotion/starthere.html>

**Plants-in-Motion:** Time-lapse movies revealing the exotic dances that plants engage in as they interact with the environment.

## “Google” Plant Growth and Movement on YouTube