**Fast Plants for Fast Times**

**Reading Selection**

***Note:*** *Because of the reading level of this story, it is probably best to use it as a read-aloud story. You may have to stop and define some of the terms, such as* selective breeding, pathologist, offspring, cross-pollination, *and* generation*.*

The Wisconsin Fast Plant™ is the plant you will be using for your experiments in this unit. It took

Dr. Paul Williams, who is a professor and researcher at the University of Wisconsin, about 15 years to develop it. Fifteen years may seem like a very long time to spend breeding a plant, but think of all

that he accomplished. Through selective breeding, Dr. Williams was able to speed up the plant’s life cycle, making it 10 times faster than that of its ancestors. Today, this small, yellow-flowered plant whizzes through its entire life cycle, from seed to seed, in just six weeks.

Dr. Williams had an interesting reason for wanting to develop a fast plant. He is a plant pathologist, and his job is to study plant diseases and to find out if some plants inherit the ability to fight off diseases. In order to speed up his work, he needed a fast-growing plant to use in his studies.

Dr. Williams started with a world collection of more than 2,000 *Brassica* seeds and planted them in his laboratory using planting, lighting, and watering equipment almost exactly like what you will use.

He observed that out of the 2,000, only a few plants flowered much sooner than others. He took advantage of these exceptional plants by cross-breeding

them. These few would be the parents of his next generation of plants. Dr. Williams wondered what kind of offspring these faster flowering parents would produce. Would the offspring inherit the ability to flower earlier than the average *Brassica* plant?

Yes! In fact, a few of the new plants even flowered a little faster than the parent plants. These slightly faster offspring were then cross-pollinated, becoming the parents of the next generation.

Dr. Williams continued to use this method of selective breeding for years. He grew populations of 288 or more plants in each generation. He cross- bred the earliest flowering plants of this population

and used their seeds to grow the next generation. In each new generation, he found that about 10 percent of the plants flowered slightly earlier than their parent generation had.

The selective breeding project was a grand success. The result is what is now known as Wisconsin Fast Plants™. Besides developing a six-week growth cycle, Dr. Williams was able to breed in other desirable qualities that make the plant a nearly ideal laboratory tool. Some outstanding traits of these plants are:

They produce lots of pollen and eggs, resulting in many fertile seeds.

Their seeds do not need a dormancy (or rest) period, so they can be replanted immediately.

The plants are small and compact. They thrive in a crowd.

They grow well under constant light.

Wisconsin Fast Plants™ have become important laboratory research tools all over the world. Soon they will be part of National Aeronautics and Space Administration’s space biology program. But most exciting of all, these special plants are becoming part of school science programs across the country, from the elementary to the university level.

*See Tab 7 pg. 18 for additional suggestions on using this reading selection.*

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**LESSON**

**3**



**Lesson 3 / Planting the Seeds**