POLLEN POWER UNLEASED! GROWING RICE FOR A HUNGRY WORLD

ENOUGH RICE TO FEED THE WORLD!

Rice is one of the most important foods in the world. Every year, we eat 505 million metric tons of rice. That's the same weight 90,000 elephants and is enough rice to fill 1.5 million swimming pools!

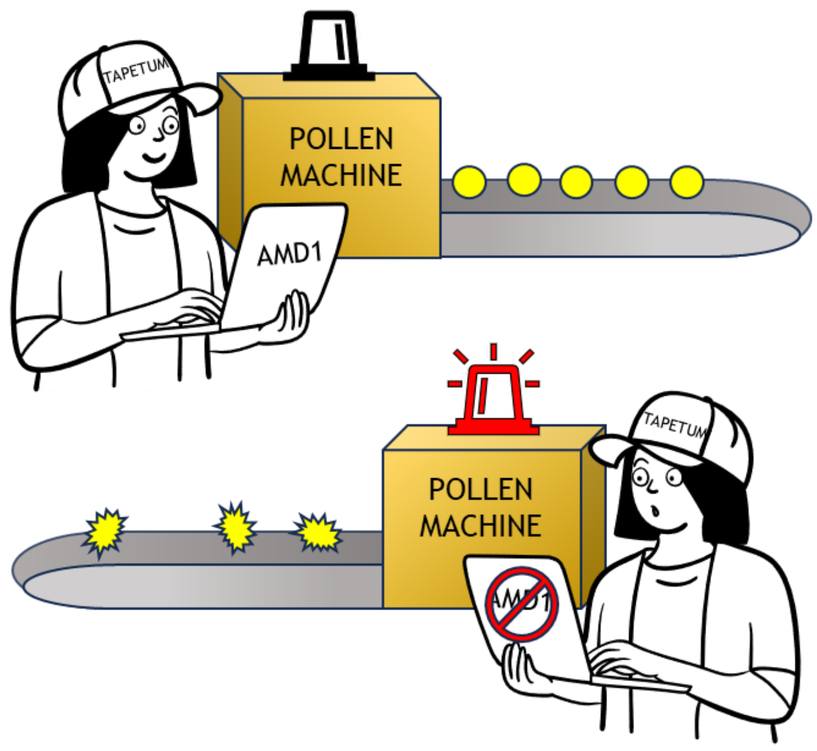
Since so many people depend on rice as their main food source, we need to make sure we can produce enough for everyone.

THE MYSTERIOUS CASE OF MISSING POLLEN

Scientists noticed that some types of rice weren't making as much pollen as other types of rice. They tried to find out why and discovered that the rice that didn't make very much pollen had problems with a part of the plant called its tapetum.

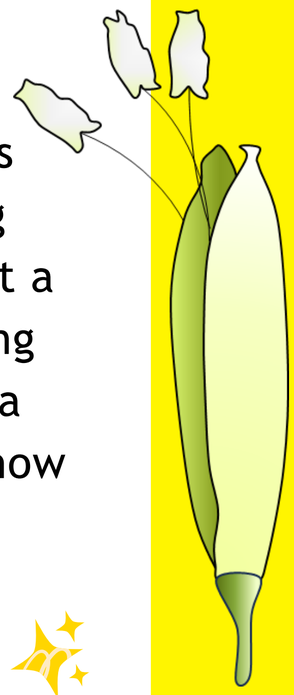
TAPETUM. THE BOSS OF THE FLOWER FACTORY

Flowers have a special part called the anther. This anther is like a tiny factory that makes something very important called pollen which plants need to make seeds and grow more plants. Inside the anther, there is a layer called the tapetum. The tapetum is like the boss of the factory. Its job is to help the pollen develop and become strong and healthy, it takes care of the pollen and makes sure it grows properly inside the anther. Once the pollen is ready, it can leave the anther and travel to other flowers to do its important job of making seeds.



THE AMD1 GENE: A FAULTY INSTRUCTION MANUAL

In the rice that didn't make so much pollen, the tapetum didn't work so the pollen in these plants was not healthy and couldn't do its job of making new seeds properly. The scientist discovered that a special gene called AMD1 is responsible for making sure the tapetum works correctly. A gene is like a tiny instruction manual that tells the rice plant how to grow, look, and function. Without the AMD1 gene, the rice plant didn't have the right instructions to make healthy pollen.



SCIENTISTS ON THE QUEST FOR BETTER RICE

Scientists are studying the AMD1 gene to learn which rice plants are better to grow, and to see if we can give the rice plants that aren't very good at making pollen the instructions from the AMD1 gene to make better plants in the future. They hope to create new plants that can make more seeds and help us grow more food.

Learn more: www.sebiology.org/resource/tpj-article-grass-specific-aberrant-microspore-development-1-is-required-for-maintaining-pollen-fertility-in-rice.html