

Do Plants Have Secret Lives?

In 1973, *The Secret Life of Plants* was published. The book's authors claimed that plants think and feel, just like humans and animals. The book suggests that plants feel fear, love, and anger, and can also read a person's mind.

The authors also proclaimed that plants respond to music. They believed that many plants enjoy mellow, quiet music, which also helps them to grow. Other plants dislike loud music, the authors claimed, especially rock 'n' roll, which they felt could actually kill some plants.

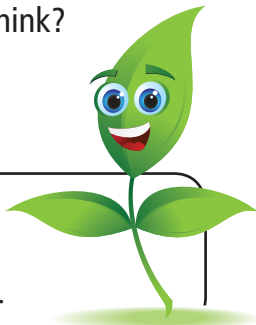
People still read *The Secret Life of Plants* today, and some believe its claims. But most botanists—scientists who study plants—strongly disagree. Susan A. Dudley, who conducted the sea rocket



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experiments, warns us to remember this: plants do not have human feelings. Nor do plants have brains that send signals through a nervous system like ours.

However, plants do send out electrical signals from one part of their roots, stems, and leaves to another. Could plants be "thinking plant thoughts" in their own way? Perhaps scientists will find out someday. What do you think?



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On a separate paper, draw a plant and label where you think it would experience each of the five senses.



Plant Family Feud

By Ron Fridell

Have you ever heard of a tree or a weed or a flower that could think? Two Canadian scientists are thinking that is not too far-fetched. Most people believe plants are not capable of conscious or deliberate thought or action. After all, plants have no eyes or ears or noses. They have no brains or central nervous systems.

It turns out that plants may not be as unconscious as we once thought. Two Canadian scientists, Susan A. Dudley and Amanda File, have discovered a species of the sea rocket plant that recognizes its relatives. This plant, the Great Lakes sea rocket, clearly knows who is family and who is not. The scientists made this amazing discovery by observing the plants through carefully controlled experiments.



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This amazing plant is a beach weed found along the shores of lakes and oceans in North America and Europe. Part of its seed pod can pop off like a rocket!

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Dudley and File planted groups of sea rockets in different containers. Some held only plants of the same family. Others housed strangers—sea rockets of different families grouped together. The two scientists made sure that all the plants received the same kind and amount of soil, light, water, and fertilizer.

Dudley and File observed the sea rockets' behavior each day. In the end, they came to some surprising conclusions. Sea rockets consistently react one way to family members and a different way to strangers. The key is the nutrients in the soil. Plants must have nitrogen, carbon, sulfur, and other nutrients in order to survive and grow. When a sea rocket realizes that there are strangers nearby, it gets selfish. It sends out long roots to grab all the nutrients for itself.

But when the nearby plants are family members, the sea rocket does not send out such



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long roots. Instead, it shares the nutrients with its relatives. Sharing food within a family is common among humans and animals. But the sea rocket is the first known plant to demonstrate this behavior.

Since the sea rocket experiment, Dudley has found evidence of three more plant species that can recognize relatives. How can these plants do this? Could they actually be "seeing" and "thinking" in their own unique way? No one knows—yet. But scientists are searching for answers.



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Fun Facts: Plant with Senses

Plants can't think and feel the way we humans can. But that doesn't make them mere mindless vegetables. Here are three plants that seem to have senses because of how they react to outside forces.

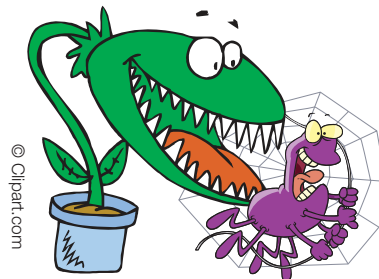
Venus Flytraps

Venus flytraps have sensitive hairs on their



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leaves. When an insect or spider lands on a Venus flytrap, electrical signals cause the leaves to close up. It takes just half a second to trap the victim. Then this meat-eating plant goes to work digesting its prey, which can take about ten days.



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Mimosa Plants

Some plants, such as the mimosa, are sensitive to touch. Mimosa leaflets fold up and droop when an animal touches them. This is how a mimosa defends itself. A hungry predator may pass up those droopy leaves for the more inviting leaves of another plant.



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Sunflowers

All plants sense light. Some plants, like sunflowers are even able to track the Sun. This is known as *heliotropism*. At dawn they face the east. During the day, the buds follow the Sun. Then at night they turn back eastward to await the next dawn.



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