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THE SCHOOL DISTRICT OF MANATEE COUNTY FEATURES A STUDENT AND A CAREER &amp; TECHNICAL EDUCATION TEACHER

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## FFA is Leading the Way

FFA, formerly known as Future Farmers of America, offers many opportunities for students to discover various career pathways related to horticulture, agriculture, veterinarian medicine, and the environment.

Mr. Greg Egan, one of three FFA advisors at Braden River High School (BRHS), teaches Agriculture Foundations, Horticulture II, and Veterinary Assisting to BRHS students. Greg brings his classes to life by presenting opportunities for students to apply what they have learned. For example, in his Horticulture II class, students study insects, weeds, diseases, fertilization, and growing seasons in the classroom. Then they head outside to the barn and garden to put their knowledge into practice by creating their own garden in a box.

Greg previously worked for state and national FFA programs and is enthusiastic about teaching at BRHS. "I love this school," he said. "We emphasize core values. I believe in EdVantage which is the District's plan to inspire students to learn, dream and achieve. I teach principles and students apply what they have learned. I do my best to provide students with lifelong skills they can use in a career or college setting."



DISCOVER  
 the  
**Future**



**Regional Careers:** Here are examples of agriscience occupations and current wages in the Suncoast Workforce Region.

Occupation	Entry Level	Experienced
Biological Technicians	\$16.70	\$20.24
Environmental Science and Protection Technicians	\$13.86	\$19.83
Foresters	\$17.88	\$21.62
Life Science Technicians	\$8.75	\$13.97
Biological Scientists	\$18.14	\$39.78
Environmental Scientists	\$18.43	\$38.09

**Source:** <http://fred.labormarketinfo.com>

FL Labor Market Statistics, Occupational Employment Statistics & Wages Program

**Career Pathway:** Students desiring a career in agriscience can find related educational programs at these area schools\*:

Braden River High School,  
 Manatee Technical Institute,  
 Manatee Community College,  
 University of South Florida

\*Other Manatee schools may offer similar programs. Listed schools are related to today's issue.

WEB  
**Wise**

Check out the following websites:

<http://library.thinkquest.org/3715/root2.html>  
[www.botanical-online.com/raizangles.htm](http://www.botanical-online.com/raizangles.htm)  
[www.cmg.colostate.edu/gardenotes/132.pdf](http://www.cmg.colostate.edu/gardenotes/132.pdf)  
[www.ffa.org](http://www.ffa.org)  
[www.flaffa.org](http://www.flaffa.org)

BRADENTON  
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## InnoVators

## The Root of the Matter

**B**iodiversity is a word describing the vast variety of life on earth. According to the Center for Plant Conservation, scientists have classified over 250,000 species of plants, with potentially millions of species yet undiscovered. At the root of every plant species, there is—you guessed it—a *root*.

When you get down and dirty in the soil, there's an entire world of roots below the surface. There are two main functions of roots: 1) absorb water and nutrients, and 2) secure plants to the earth.

A root system consists of a primary root and secondary—or lateral—roots. In a *taproot* system, the primary root is dominant and has a single axis that allows deeper growth to reach low water tables. The taproot's main job is to store food for the plant. In a *fibrous* root system, the roots diffuse and branch in all directions. The fibrous root system's job is to hold the plant solidly in the earth.

Many plant species have developed specialized roots that serve specific purposes. *Prop* roots prop up stems that might otherwise fall in a strong wind. Some roots live above the soil; these are known as *aerial* roots. *Climbing* roots develop on weak-stemmed roots to help them climb towards the sunlight. *Aquatic* roots need a flow of water to supply the plant with nutrients and oxygen. *Sucker* roots are shoots sent out from a plant that reproduce new plants. *Food storage* roots are swollen roots that store nutrients for the plant and may serve as food for humans. *Nodal* roots form away from the primary root system on nodes. *Strangling* roots help plants climb another tree and eventually strangle the host plant.

There are many more specialized roots performing specific jobs to keep plants alive. As scientists discover new plants, new specialized roots may be discovered as well.

A *botanist* is a scientist who studies plants. An *agronomist* uses biology and chemistry to produce and control crops. *Agriscience* is applying scientific principles to the study of *agriculture*, or the activities related to the production of plants and animals. People in these careers must learn about roots.



Explore  
 IT

## Root for the Answer

There are many specialized variations of plant roots. Try to match the type of plant with the type of root.

1. Taproot	A. Carrot
2. Fibrous	B. Ivy
3. Prop	C. Kikuyu grass
4. Aerial	D. Mistletoe
5. Climbing	E. Ficus
6. Aquatic	F. Acacia
7. Sucker	G. Corn
8. Food storage	H. Water hyacinth
9. Nodal	I. Orchid
10. Strangling	J. Eel grass

Answers: 1-F, 2-C, 3-G, 4-I, 5-E, 6-H, 7-D, 8-A, 9-J, 10-E