

New Ag Science Construction

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it's working. Each of these kids have managed an area and managed it really well. Young kids are seeing what are they're interested in and picking their specialty areas."

Not only do TLAs oversee general maintenance and inventory of their areas, they are also drafted as teachers as they set up laboratory demonstrations and even deliver an occasional lecture.

"They only get one credit," said Miller. "The real reason they go at it is because they like the area. They run the place."

Miller also sees the TLA position as an excellent resume-builder. "They're already set up to be a lab assistant because they've already done it," he said.

The position changes each semester, with new students moving in to take on TLA responsibilities.

An extensive video library provides another avenue of learning for the students. More than 1,000 titles address specific agriculture, science, and environmental science topics. The titles are cataloged in a computer, which allows students to search by subject or keyword.

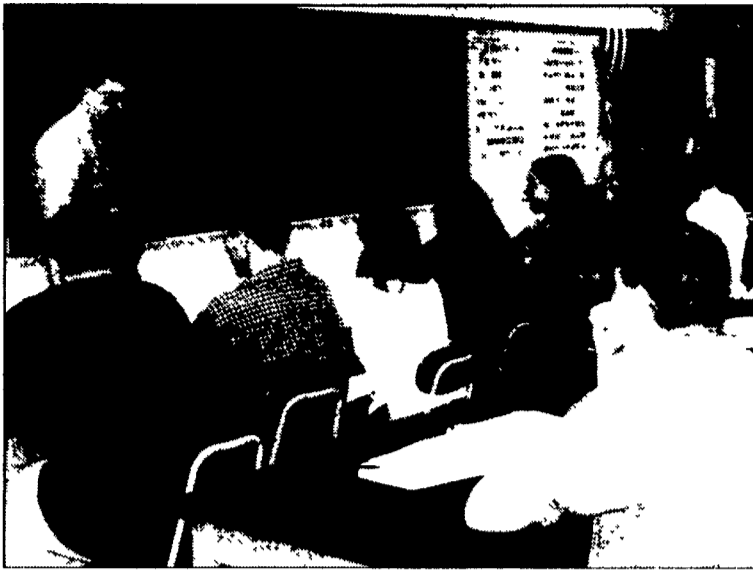
In the "wet" laboratory, students perform chemical, biotechnological, and genetic experimentation. Last year students inserted a gene into the e.coli bacteria to make it blue. A stereo microscope is attached to a TV screen so all of the students can observe the slides.

Students grow bacteria and plant tissue culture as they learn about microbiology in the school's labs. Here they place plants, as little as one cell, into a special media with essential nutrients a plant needs to grow. Students perform the process in the laminar flow unit which blows the sterile air needed to keep the bacteria from the cells.

"This is actually research lab-like conditions," said Miller. "We hope to develop inventory to sell \$7 apiece tubes to other schools across the East Coast. Greenhouse ferns start this way, in a totally sterile environment, so the plants start disease-free and contain no pathogens.

"Our goal here all through the place is not to produce but train kids to success in the agricultural science program," said Miller.

According to Miller, 95 percent of Conrad Weiser agricultural science students go onto a four-year university, with more



Students study the internal anatomy of fish with teacher Harold Dietrich.

than 65 percent of those students entering agricultural science-related majors and the remaining students in health and medical fields.

"They don't survive four years here unless they like the science," said Miller.

Approximately 45 broilers have taken up residence in the "animal laboratory" of the agricultural sciences wing. The chicks, which came in when they were about a day old, are now three weeks old. The fence which hems in chicks is portable and will be rearranged to become a residence for lambs and pigs during the school year.

Senior Amy Moyer takes care of the health of the chicks by making sure they have proper light and ventilation and keeping the area clean. As a TLA, Moyer also oversees the nutrition program and checks to see if the chicks can easily reach the food and water.

Moyer will also oversee the upcoming chicken barbecue. After the chicks fully mature they will be sent off to slaughtered, dressed, and returned to the school, where students will finish preparing and host the barbecue.

"It will be adventurous, it's all new," said Moyer.

"It's what the room was designed to teach," said Miller, who wants students to see the farm-to-table aspect of agriculture.

"We only have a minority of kids from farm families," said Miller.

The greenhouse and soil preparation room is Elliot Hoffman's TLA territory. "We can control the heat and climate," said Hoffman. "We can have the

desert next to a tropical rainforest because we have climate and irrigation control for every square foot in the greenhouse. This is really college level, almost to the laboratory level with the control we have here."

Interestingly, you won't find any soil in the soil preparation room. Instead, a soil media is used for potting. Besides plans for a dwarf orchard and disease-resistant American Elm and Chestnut nursery, the digging is now in progress for an outdoor turf plot.

In the upcoming year students can also look forward to a symposium where the freshmen will write proposals and get local funding for research projects.

Current projects include nineteen generations of milkweed bug housed in the classroom, or the coral reef slowly building in a tank which mimics Mediterranean longitude and latitude conditions.

In addition, aquaculture students take daily reads on the school's striped bass population. Also 10th grade ag science students will perform caponization surgery this spring.

Academics is stressed, said Miller, who makes sure the students keep a scientist-type journal which features drawings, daily notes, class notes, professional contacts, and extra study.

Twin Valley

At Twin Valley High School, 300 ag science students study environmental, agricultural, and technical areas.

In all, the ag science area boasts a shop, two-sectioned greenhouse, two classrooms, an

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Ag science chair and teacher Ron Frederick has plans for production and sale of plants, plus installation of rainforest plants.



Senior Amanda Hettinger does not have a farming background, but has enjoyed her ag science courses at Twin Valley for four years. "I enjoy working with and learning about animals," said Hettinger. "I also like the students in the classes." In aquaculture class, students learn to install a power filter and fill the tank with decorations, besides cleaning, and checking the water level and temperature of the tank.



These tanks will be used to raise Koi and teach students about fish production.