

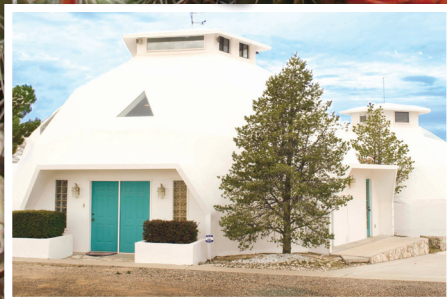
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Carlsbad High's **Hottest** Classroom

By John Safin

No more pencils, no more books, growing something for the cooks.

That's the way some students at Carlsbad High School can think of science class thanks to the efforts of Dr. Jerry Cox and former Senator Don Kidd in 2000. The high school for many years relied on local farmers to allow use of their land for agricultural studies. Dr. Cox brought the idea of a hands-on agriculture program to CHS campus, and Senator Kidd found a grant to build the greenhouse on the high school campus. In 2001, classes started meeting in the greenhouses -- growing plants, young minds, and visions for the future.

"Students absolutely love it," stated Vikki Morse, Horticulture Instructor. "We have all kinds of kids, from

all different backgrounds, that all flourish. The environment isn't like any other class on campus. All the oxygen the plants pump out wakes up everyone who walks in here."

Morse has been teaching at CHS for 12 of her 14 years as a teacher. "Before the high school had a greenhouse, Dr. Cox would grow plants at CARC's greenhouse where I was the manager. He introduced me to the high school's program."

There are two greenhouses joined together where you'll see rows and rows of tomato vines running from the floor to the 30-foot ceiling. The plants stem (yes, that was a pun) out of dozens of dirt tubes about

Photo: CHS Ag students and teacher Vikki Morris, surrounded by tomato plants in the high school's greenhouse.

a foot wide, thirty feet long, with enough to grow 600 tomato plants. (NOTE: It was sad to discover they don't grow jelly beans.) The CHS greenhouse uses a hydroponics system, which allows the plants to grow in a small amount of nutrient-rich soil. This set-up allows the plants to use energy on growing flowers and fruits, instead of having to make roots to find nutrition. The CHS greenhouse uses no chemical pesticides, but their effort is not considered organic because they use fertilizers and water additives.

The Horticulture and Agriculture Sciences classes are two of the most

popular at CHS. The students have to apply for the class the prior year and determine with their counselor if they are a fit for the class. Morse added, "We used to change students every nine weeks. We discovered there was a better learning opportunity to have the students for a full year."

Apparently, working in the greenhouse for the entire school year is a good thing. "We can see how much the plants grow," said junior-year student Yamileth Botello. "I like working in the greenhouse, but I don't like the heat and humidity."

Understandable, as the greenhouse is kept around eighty-five degrees and sixty percent humidity. "It takes a lot of work to help plants grow," Botello added.

The plants start as seedlings in August and will grow to 24 feet by May. Some students think it's an easy "A." They soon discover there's real work involved. Morse clarified, "Each student starts with ten plants and is graded on how well their plants do over the entire year. Once they have their own plants and get involved with activities, they don't want to leave. The kids come here to nurture the plants, and the plants nurture them."

CHS sophomore Steven Fischer is another student glad for the class. "I help my uncle with his farm, my dad has rose bushes, and I was looking for something to get into Future Farmers of America (FFA)." His favorite part of the class is picking the ripe tomatoes. "I was surprised at how fast the plants grow."

Featured in the September 2002 issue of *Growing Edge International* magazine, the high school's greenhouse, state-of-the-art when it opened, is still an example of

modern science. The facility's heating and cooling, watering, and fertilization systems, and the amount of sunlight and shade are all monitored and regulated by computers. The CHS greenhouse has a CO2 machine that maintains a proper level for the plants during long vacation breaks and exam week. Remember: plants need carbon dioxide, which we provide, and the plants give us oxygen. (That's the reason everyone should have a live plant in every room where they live and work.) The students groom, clip, hook, and provide personal care to the plants.

Unfortunately, bad things can happen even with determined attentiveness.

"It was the third year of the greenhouse program," told Morse. "The plants were gorgeous. Just beautiful. We checked the plants over the Christmas break and found cankers all over the plants."

A canker is a bacterial disease that causes lesions on trees and plants. Not harmful to humans, but very bad for plants.

Morse and company discovered the cause of the blight was when a student spit chewing tobacco into one of the soil bags. "Tobacco leaves contain an airborne plant virus. The chewing tobacco went into the soil, the virus stayed active, and it infected all the plants. We turned this disaster into a learning experience. Students were shown

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Photos Top to Bottom: CHS Senior Katie Beeman (front) getting instruction from Horticulture Instructor Vikki Morse.

Junior Austin Rennie tends to his tomato plants in the CHS greenhouse.

A little green tomato, actually smaller than a golf ball.

CHS Agriculture Sciences teacher Leslie Clark showing the basics of a flowering plant.



Carlsbad High's Hottest Classroom

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how to stop the disease and rescue the plants. It was a devastating year, but we saved a few plants."

Keeping the plants "healthy, straight and doing anything needed to get the tomatoes" is the attitude CHS junior Austin Rennie takes. "Gotta be at it as soon as you get here. There's always something that needs to be tended." Austin plans to get into an agricultural college when he graduates. "I like caring for the plants and being in the greenhouse."

All the hands-on work in the greenhouse brings experience to the Carlsbad High agricultural students. However, let's remember this is a science class and that means work in the classroom (did everyone just groan?). Fortunately for students, Agricultural Science teacher Leslie Clark makes the classroom as much fun as it is educational. "I want them (students) to learn something. They will learn the basics of plants, structures, the biology, and apply the knowledge to their work in the greenhouse."

Clark has been teaching for fifteen years, coming to Carlsbad High with almost three years of work with the US Department of Agriculture in Lubbock. "I always wanted to be a teacher and decided to teach agriculture. I also teach welding, which was part of my interdisciplinary college degree," she noted.

Clark is a certified science teacher and her agricultural classes qualify for dual credits with the high school



Photo: CHS Junior Yamileth Botello on the ladder with CHS Senior Justin Ramos holding the ladder.

and New Mexico State University. The class isn't only about plants. It's about soil, soil types, and modern agriculture tools (GPS, compasses, clinometers). There's instruction about cows, horses, sheep, and pigs covered in animal sciences, designing landscapes, building barns, zoning ordinances, and other training that would lead to a great career.

"Some students interested in forestry are able to get an internship at US Bureau of Land Management (BLM)," said Clark. "Living in southeast New Mexico gives us a number of resources. We're living in the middle of the agriculture industry, with access to farmers and ranchers. FFA state officers speak to the students every year, the BLM and Farm Bureau are here, and we have a great amount of support

from the community." Clark's agricultural science class is a perfect match with Morse's horticulture teachings in the greenhouse. For the past two years, their efforts combine training and education with real life opportunities. This includes the sale of crops.

CHS senior Katie Beeman, holding a big red tomato, bragged, "Have you ever had one of our vegetables? They taste so much better than anything you can get at the grocery store."

After a few months of growing, the CHS greenhouse will produce 150 to 250 pounds of tomatoes each week. The students sell the tomatoes to classmates, teachers, and several local restaurants. The students also donate hundreds of pounds of vegetables to Carlsbad Community Kitchen. Vikki Morse added, "The sale of tomatoes, cucumbers, and other items generates funding for next year's class. I'm proud to say that we haven't received any money from the central office since the first year."

Now is your chance to get some locally grown and super tasty veggies while helping our high school students. Call Vikki Morse at Carlsbad High School, (575) 234-3319 ext. 286, and she'll let you know the crop of the week. ■

ABOUT THE AUTHOR: John Safin has a background in business operations, marketing, event planning, and public relations. Originally from Upstate New York, John moved from Glendale, AZ to Carlsbad, NM, which he now calls "home." www.johnsafin.com

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