

Video Transcript

Middle and High School Lesson 5: Nourishing the Planet in the 21st Century

- Speaker 1: Today we are going to talk about one of the most important questions you'll discuss while in school. How are we going to feed the world population in 2050? Farmers around the globe are making sound scientific decisions to make their farm sustainable for the future. This includes identifying how to grow more food with fewer resources to feed more people. They are looking at conventional, organic and other methods of farming in order to produce the food they need to feed a growing population.
- Speaker 1: The easiest way to understand what the concept of a growing population is, is to look at the few general differences. When my parents were born in the 1940s, the world population was 2.5 billion, when I was born in 1970 the world population was four billion. And when my three girls were born in this 21st century, the population is six billion people.
- Speaker 1: With this increase and the span of time and the decrease in farm land, it's easy to see why farmers are using sound scientific decisions to continue feeding this growing world on less farmable land. Farmers in the 1960s could feed 26 people. Today farm families feed over 155.
- Speaker 1: Nutrient management is one of the reasons farmers can feed more people with less land. Next time you see a farmer, thank them for producing an abundant, safe food supply and don't forget that your food was grown in fertile, well managed soil.
- Speaker 1: Today I am video conferencing with Anna Lyles, a farmer in New Mexico. Anna can you tell us what you grow on your farm?
- Anna Lyles: We grow lots of things. We raise about 2,500 acres of vegetables, which include lettuce, cabbage, watermelons, pumpkins, onions, wheat, alfalfa, green chile and pecans.
- Speaker 1: As the world population is rapidly increasing, it's more important than ever for farmers to be able to grow more crops without expending additional natural resources. Can you tell us how your farming practices have changed over the last ten years? How have those changes made farming more sustainable?
- Anna Lyles: We have, of course, tried to keep up with the times. Now most people consider a farmer is Old McDonald, E-I-E-I-O, a straw hat and a pair of overalls. However, every farmer I know that actually makes a living farming, without an off farm job, has at a minimum a bachelor's degree from a university. All of our tractors are now equipped with computers. Every tractor is run using GPS. We all know what GPS is, we use it to make better use of the soil and better use of the land that we have to farm. We also use a program called Auto Steer and on top of that we are putting all of our irrigation underground. It's called drip irrigation. It's four to six inches below the surface and the hoses are hooked up to the pumps and water drips out at exactly the amount that each individual plant needs. Now the GPS makes our rows and our fields absolutely straight. Using the GPS we then lay in the drip irrigation, then we go back and plant the seeds using GPS, and then we go back and cultivate when the weeds start coming up because we don't want the weeds.

Video Transcript

Middle and High School Lesson 5: Nourishing the Planet in the 21st Century

Anna Lyles: In order to make sure that we don't make a mistake, no human error and drive through the field and hit the drip and even move it or destroy it, we use a program called Auto Steer. The farmer is in the tractor and gets to the end of the field, lines it up on the row, hits a button and takes his hand off the steering wheel and the tractor drives itself being guided by GPS absolutely straight to the end of the row. The farmer turns it, lines it up to go back the other way, hits the button again. That way our GPS keeps the drip irrigation from being destroyed, keeps us from destroying the plants and reduces the number of times we have to drive over the field.

Anna Lyles: The drip irrigation not only delivers to the plants the exact amount of water the plants need, it is also a method delivering fertilizers and nutrients to the plants. There is no fertilizer left on the ground, it is all delivered directly to the root system of the plants where it is actually needed.

Anna Lyles: We are trying to be more efficient, to produce more food on fewer acres. Farm ground is lost every day to parking lots, housing developments and encroachment of the towns. So we have to be more positive on our impact on the environment and more efficient in our use of the land.

Speaker 1: Looking to the next ten years, what other changes do you think you need to make to make your operation more sustainable?

Anna Lyles: One of the secret weapons for farming for the 21st century is one of the misunderstood things about farming when it comes to the general population. Our secret weapon is GMOs. Genetically modified organisms. Sounds scary, but it's not. Corn, the backbone of our diet, of all of our diets, is a grass. It is part of the grass family and was originally a plant that looked similar to what wheat looks like today. Through selective breeding, over thousands of years, we now have the corn plant that we all are familiar with. Corn is a genetically modified organism that was done in the farm, in the field by farmers over thousands and thousands of years. A GMO is a plant similar to that, that we can do in years what used to take thousands of years. Because of the number of people on our planet we need to produce more food faster. So, in the laboratory they are making the GMOs stronger, more resistant to disease, able to produce more food, more quickly. They are not Frankenfoods. We are just speeding up the process of natural selection.

Speaker 1: What is the one thing students can do to really understand how food is brought to their table?

Anna Lyles: The one thing you can do, if you really want to know how it works, plant a garden, get a job on a farm, get your hands dirty. Go out there and plant the seed and see how long it actually takes to go from a seed you put in the ground to something you can put on the table. Look at how much effort, time and energy is expended in order to put that one tomato on your kitchen table. Unless you do it hands on, put in the work, watch your crop die or flourish you truly can't grasp what it is to grow food that feeds a nation.