

**8TH, 9TH, & 10TH GRADE
GENERAL AGRICULTURE**

“ALL THE KING’S MEN”

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“All the King’s Men”

“Humpty Dumpty sat on a wall, Humpty Dumpty had a great fall. All the King’s horses and all the King’s men, couldn’t put Humpty together again.” Ever since this nursery rhyme was written, back in 1810, Humpty Dumpty has been portrayed as an egg. The power, of the King’s horses, nor his men, could save Humpty. But suppose Humpty fell in 1974. This is the year a team of scientists rebuilt the “Six Million Dollar Man.” Imagine hearing the modified intro to that famous TV show had the scientists found Humpty splattered on the ground. It might sound like this: *“Humpty Dumpty, an agricultural egg, an egg barely alive. Gentlemen, we can rebuild him. We have the technology. We have the capability to build the world’s first bionic egg. Humpty Dumpty will be that egg. Better than he was before. Better, stronger, faster.”*

By altering genes, breeders have been using biotechnology to make plants and animals “better, stronger, and faster” for thousands of years. But the actual science of biotechnology began with the introduction of genetic engineering, a science based on experiments by Gregor Mendel. Learning from Mendel’s experiments, genetic engineers have since created many important varieties of plants and animals.

Today, there is some sort of biotechnology in about 60 percent of all foods. By taking a trait from one organism and putting it into a food, the food can be altered in many ways, like having it last longer, taste better, and grow larger or faster. It can also be designed to be immune to certain diseases. With fewer farmers and a greater demand for food, genetic engineering can increase yields on fewer acres resulting in greater efficiency and a larger supply. Developers are using biotechnology to reduce saturated fats in cooking oils, reduce allergens, and increase disease-fighting nutrients in foods.

Critics say that the effects of biotechnology are unpredictable and may lead to serious predicaments in the future. But, according to evaluations performed by the Food and Drug Administration, genetically engineered foods were found to be as safe as their traditional counterparts. Today, our crops are being grown by using genetic engineering, but skeptics are still opposed.

Biotechnology provides farmers with the tools needed to make production cheaper and more manageable. For example, crops can be engineered to tolerate specific herbicides. This makes weed control simpler and more efficient. Crops can also be genetically engineered to be resistant to specific diseases and insects which can decrease the use of synthetic pesticides. Genetically engineered plants are being developed for a purpose known as phytoremediation in which the plants detoxify pollutants in the soil. The plant actually absorbs and accumulates polluting substances in the soil and then are harvested and disposed of safely. The result is improved soil quality at a polluted site.

My research revealed that agriculture has provided the foundation for all biotechnology. This makes me proud to be a part of agriculture. My research also led me to the most fascinating and controversial area of biotechnology, the research of stem cells. Breakthroughs in stem cell research are happening at an unprecedented rate. One of them is the ability to engineer transgenic animals.

Transgenic animals carry genes from other species and can have applications in agriculture, medicine and industry. For example, transgenic cows exist that produce more milk or milk with less lactose or cholesterol, pigs and cattle that have more meat on them, and sheep that grow more wool. Greater performance is gained without the use of growth hormones which leave residue in the animal product. The uses and benefits of transgenic food, companion and competitive animals are limited only by our imagination.

Applications from stem cell research could one day eliminate all neurodegenerative conditions such as bovine spongiform encephalopathy or mad cow disease. Imagine the potential impact to agriculture and human welfare. Scientists all over the world are excited about stem cells because they provide the ideal model for studying an organism. Stem cells can replace damaged cells in the body and can be directed to produce specific cell types used for testing drugs.

I believe with all my heart that by working together, two of the most powerful entities on this planet, agriculture and medicine, can make life-changing differences. Discoveries in stem cell research could make a difference for my Grandpa Jack. An active rancher for 62 years, Grandpa now lives in Enid in the Greenbrier Special Care Facility. Nowadays, his saddle is a sofa and his pasture a parking lot. I have wonderful memories of us - riding horses together and checking cattle – while I draw strength from these memories, I do so alone. Grandpa Jack, suffers from heart disease, macular degeneration and Alzheimer's. He can't remember me.

The technology that revolutionized U.S. agriculture in the 20th Century can be adapted to benefit the world in the 21st Century. Advances in biotechnology will increase our yield potential, enhance desirable traits in plants and animals, and make our food supply safer – it will also make farming more profitable. Biotechnology will also save lives by treating and curing diseases. For instance, a team of scientists at The Roslin Institute, in the United Kingdom, has created genetically modified chickens whose eggs have cancer-fighting proteins in their white. The institute has created five generations of transgenic birds, some 500 individuals, all producing powerful eggs in bulk. Drugs obtained from chicken eggs are cheaper and easier to make. Someday, biotechnology will literally reduce the costs of pharmaceuticals to mere “chicken feed.”

Humpty Dumpty sat on a wall, Humpty Dumpty had a great fall. All the King's horses and all the King's men couldn't put Humpty.....wait.....by using biotechnology, we can put Humpty back together again! Humpty Dumpty, an agricultural egg made better, stronger, faster, with a little help from all the King's men!

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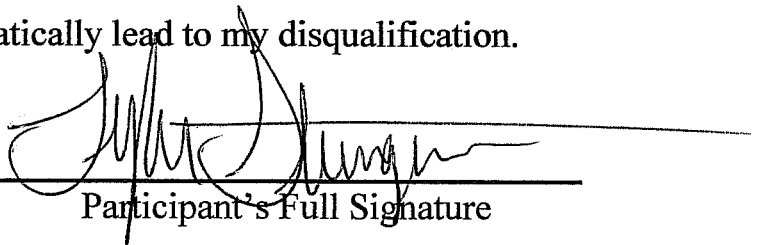
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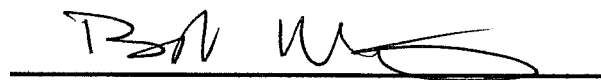
State Public Speaking Career Development Event Oklahoma FFA Association

I hereby certify that I meet all the eligibility requirements for participation in the State FFA public speaking event for the current year as set forth by the State Executive Committee and State Staff.

My speech entitled All the King's Men in the 8th, 9th, & 10th General Ag division is the result of my own effort and ability. It is understood that I am encouraged to utilize all available training facilities of my local school in developing my speaking abilities and that I may obtain facts and working date from any source. However, when information from other sources is used, such as direct quotes or phrases, specific dates, figures or other materials, it must be marked in "quotes" in the manuscript and identified in the bibliography at the end of the manuscript. Failure to do so represents plagiarism and will automatically lead to my disqualification.

March 26, 2007


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