Brittney McLamb

This summer I had the opportunity to work with Prestage Farms, whose headquarters are located in Clinton, NC. During this ten week internship I was able to gain experience and insight into the swine and turkey production industry. For eight weeks of the internship I worked on a sow farm and gained experience in breeding, farrowing, and management. The last two weeks of the internship were spent riding with swine and turkey service personnel and touring different Prestage facilities. I had the opportunity to tour the feed mill, hatchery, turkey processing plant in St. Pauls, NC, and the Smithfield Foods swine processing plant in Clinton, NC. Additionally, I was Pork Quality Assurance (PQA) Plus certified, which was sponsored by the North Carolina Pork Council. This internship was very rewarding and has allowed me to expand my knowledge and experience and work with several wonderful people in the swine industry. These pictures were taken when I was on Market Trucking rotation, helping to load Market Hogs and ship them to Smithfield Foods Processing Plant in Tarheel NC.

Sam Copeland

I spent my summer working for the Oaks Veterinary Clinic in Smithfield, Virginia. I worked with Dr. Garrett Edwards and Dr. Cathleen Lombardi traveling to client's farms for appointments. I had the opportunity to learn more about equine health and medicine; a field of veterinary medicine previously foreign to me, in addition to expanding my knowledge on cattle and small ruminants. Perhaps the most rewarding experience was having the opportunity to palpate beef cattle with Dr. Edwards where I was taught the basics of accurately predicting pregnancy, and towards the end of the summer, was beginning to get the majority of them right. I really appreciate everything that Dr. Edwards and the staff at the Oaks did for me this summer.
Brandon Mallard

This past summer, I worked as an intern for the large animal division of South Ridge Animal Hospital in Kannapolis, NC. This experience was valuable and provided a broad scope of food animal and equine experience. I assisted with and performed routine vaccinations and palpations of cattle, assisted with calf brucellosis shield vaccinations and tattooing, assisted with castrating bull calves, umbilical hernia surgeries in calves, and uterine prolapse repairs in cattle. In addition, I assisted with brucellosis testing and TB testing for certified herds and prepared the requisite paperwork. I also assisted with treatment for pink eye and foot rot. In addition to cattle, I received experience in small ruminant, camelid, and equine medicine. This summer internship was rewarding and provided worthwhile experience. In the picture, I am treating a cow for pink eye by injecting 1.5 cc Depo-Medrol and 1.5 cc penicillin in the subconjunctiva under the direction of Dr. Jonathan Featherstone.

Sierra Burrell

This summer I participated in the Summer Research Opportunities Program (SROP) at the University of Illinois at Urbana-Champaign. This ten week program consisted of a GRE preparation course, research, workshops about graduate school, and a research paper. All participants were also required to do an oral and poster presentation. I presented at a Research Symposium that was held on campus as well as the CIC SROP Conference held at The Ohio State University.

My research focused on the metabolic adaptations of bovine adipose tissue during the periparturient period in an attempt to improve dairy cow performance during this period. Metabolic adaptations during gestation and early lactation are important because metabolism is the direct conversion of feed into useful nutrients for the body. A positive nutrient balance is essential for the calf’s survival as well as superior milk synthesis and secretion.
Overall, I enjoyed my summer research experience at the University of Illinois at Urbana-Champaign. This opportunity strengthened my desire to work with food animals in the future. I hope to continue this work during my last two semesters at the undergraduate level as well as during veterinary school.

**Jesica Leonard**

I spent a very educational summer based in Raleigh, NC. Three days a week I was at the Kings Mill Dairy located in Durham, NC, working mainly with Dr. Mitch Hockett and Dr. Sam Galphin. The first part of the summer I spent the majority of the time learning about embryo flushing, freezing, and transfer. I had the opportunity to palpate and feel the tract fill with media. I also learned to search for embryos, practiced grading, and learned about the freezing process. The second half I spent most of my time learning about and treating sick and injured cattle. All throughout the summer I spent the rest of the time with the calves and heifers learning more about calf/heifer management including vaccinations, common health problems, and treatments. Two days a week I spent with Dr. Glen Almond at the NCSU College of Veterinary Medicine, helping with a study looking at cells in sow colostrum, specifically lymphocytes. I learned a lot about the commercial swine industry and swine immunology. I also had the opportunity to work in the lab and prepare samples for flow cytometry as well as learn to interpret data from these tests. The picture is taken in the lab as I was preparing a sample for flow cytometry. I learned a ton about the research process and how a study is conducted. There were many more experiences but no room to list them all. I feel very privileged, and overall it was a very enriching and educational summer.

**Andrea Gentry**

This summer I had the opportunity to work on two different research topics. My first topic dealt with the metabolism of 16 crossbred male piglets. For the first 7 days the piglets were fed control feed and then weighed after the 7 days. After weighing, the piglets were assigned randomly to metabolism crates and randomly assigned a specific diet. There was a total of 4 different feeds including a control. Everyday the feed was weighed and the next morning all piglets were fed. The left over food from the day prior was also weighed and recorded for each piglet. Urine and fecal samples were collected starting
on day 12 and continued for 5 days. The feces were weighed and the volume of the urine was recorded. After collecting and recording all data we are now waiting for the proper equipment to measure each piglet's metabolism.

The second topic I worked on this summer was the effects of soy isoflavones and breast cancer. The reason this topic was chosen was because soy isoflavones have the ability to act as an estrogen and it has the ability to demonstrate anti carcinogenic properties. My mentor and I began working on a literature review for publication in the Spring of 2011. This literature review discusses the correlations between soy isoflavones and their ability to alter cell apoptosis, gene regulation, gene modulation, and its ability to attach to an estrogen receptor. After completing the review I created a poster discussing my findings and presented it in front of distinguished faculty and a group of my peers.

**Patrick Brinson**

During my summer internship at Rocky Creek Veterinary Services in Olin, NC, I spent four weeks assisting Dr. Truman Sanner on farm calls to various surrounding counties. The outings consisted of mainly large animals primarily cattle. A few of the areas I was able to gain experience in during my time with Dr. Sanner are palpation, synchronizing cows to be artificially inseminated, treating milk fever, giving intravenous injections, and displaced abomasum surgery which is common in the dairy cattle industry. We also processed calves and cows to give vaccinations, castrate, and dehorn. I also got to work with a number of bucking bull clients in my stay at the practice. During this internship I came to appreciate the dedication Dr. Sanner had for his work and realized some of the risks and joys that come with this career.
At the beginning of the summer I began an internship with a cattle company in Kansas. I thought that I would be doing embryo transfer and AI work, while also doing some work with their show cattle. The internship was not as I had expected though; I was able to watch one embryo transfer, but was told afterwards that there would be no more. With that in mind I decided that working in the show barn was not helping me learn about veterinary practices, and came home. I quickly called Murphy-Brown and soon started an internship with the company. During this internship I began my work at Ingold Sow Farm, but soon began working with Dr. Perry Harms. My work with Dr. Harms consisted of a Haemophilus Parasuis vaccine trial that included vaccinating and tagging pigs in farrowing with a new modified live vaccine. This was performed four times, each time consisting of around 1,000 pigs. I also took part in this trial on nursery pigs, vaccinating with full doses and half doses to assess the efficacy of different dosage amounts.

During my work with Dr. Melissa Billing I was able to post a replacement gilt with a respiratory disease and submit samples to the lab. I also conducted a site assessment with Dr. Rebecca Robbins, performed necropsies on many nursery pigs, and worked in Murphy-Brown’s QA lab. During my work in the lab I prepared blood samples for PCR and ELISA PRRS tests, as well as fecal samples to test for TGE and Swine Dysentery. During my last week I performed a trial which scored the umbilici of approximately 1,000 pigs in the nursery. Each pig was graded on a scale from 0 to 5, with 0 being normal and 5 being a herniated umbilicus. This data will later be used to see if a correlation is evident between those with certain grades in the nursery and those with hernias in finishing. The internship with Murphy-Brown was a wonderful experience; I was very excited to be able to work with these veterinarians and I was happy to attain many necessary skills.

Food Animal Scholars Program:
http://www.cals.ncsu.edu/an_sci/FoodAnimalScholars/