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Two USDA Agencies Receive 2010 Colorado Governor's High-Impact Research Awards *Agencies Recognized for Work on a Wildlife Vaccine and CO² Impacts to Rangelands*

WASHINGTON, Oct. 25, 2010 – Two agencies at the U.S. Department of Agriculture (USDA) today were honored with the 2010 Colorado Governor's High-Impact Research Award. The Animal and Plant Health Inspection Service (APHIS) National Wildlife Research Center (NWRC) received the award for Natural Resources for its development of the GonaCon™ Immunocontraceptive Vaccine (GonaCon). Agricultural Research Service's (ARS) Rangeland Resources Research Unit (RRRU) received the award for Climate Science for its efforts to better understand how rangelands respond to rising concentrations of carbon dioxide (CO²).

"Science and research are the underpinning of all our work at USDA, from providing nutritious food to our children, to supporting the incredible productivity of our farmers and helping use our natural resources to create jobs and combat climate change," said Agriculture Secretary Tom Vilsack. "We are honored Governor Bill Ritter is recognizing USDA scientists and their efforts to understand and address challenging environmental issues, awards that culminate years of research for both teams and underscore USDA employees' dedication and determination to finding solutions to complex problems."

The Colorado state Chief Operating Officer Don Elliman will present the awards at a reception being held at the University Corporation for Atmospheric Research (UCAR), Center Green Campus, in Boulder, Colo. The awards banquet, which is sponsored by CO-LABS, recognizes the achievements of Colorado's federal scientists and honors the work of four Colorado-based labs for their cutting-edge research with global impact. CO-LABS is a consortium of research universities, businesses, state and local governments and economic development councils with a mission to educate the public about the value of Colorado's 24 federal research labs.

GonaCon™ Immunocontraceptive Vaccine

GonaCon is the first single-shot, multi-year immunocontraceptive vaccine for use in mammals, as well as the first wildlife contraceptive registered by the U.S. Environmental

Protection Agency (EPA) for use in female white-tailed deer. This new tool will be useful as part of white-tailed deer management plans in urbanized areas where traditional options may be limited.

"Following more than a decade of research with this technology in deer, we're discovering this new product has the potential to be expanded and adapted for use in a variety of situations – from management of overabundant wildlife to the prevention of disease transmission – such as a combined rabies-GonaCon vaccine, to contraception for companion animals," said NWRC's Research Physiologist and Team Leader, Lowell Miller.

GonaCon, which is developed and manufactured at NWRC in Fort Collins, Colo., has also been successfully tested in other mammal species, including elk, feral horses, bison, prairie dogs, ground squirrels and feral dogs and cats. The vaccine is being used for research purposes in the United States, Mexico, Europe, New Zealand and Australia. Future NWRC research with GonaCon will likely involve studies to support expanded registration to other species, develop oral delivery systems and prevent transmission of wildlife diseases.

NWRC is the research arm of the USDA-APHIS wildlife services program. It applies scientific expertise to resolve human-wildlife conflicts while maintaining the quality of the environment shared with wildlife. NWRC develops methods and information to address human-wildlife conflicts related to agriculture; human health and safety; property damage; invasive species and threatened and endangered species. To learn more about NWRC, visit their website at www.aphis.usda.gov/wildlife_damage/nwrc/.

Rangeland Response to Rising CO²

Following more than two decades of research, scientists at RRRU have determined that rising CO² levels alter water relations and can influence the mix of plant species on rangelands in Colorado and Wyoming. These changes impact forage production and quality for livestock and other animals, carbon sequestration and habitat response to drought conditions.

"One of the team's key findings is that the productivity of shortgrass steppe vegetation responds consistently and positively to increased CO² levels," said RRRU's Plant Physiologist and Team Leader, Jack Morgan. "Plant responses to CO² are due to two different mechanisms, one involving a direct stimulation of photosynthesis and another involving the closure of the leaves' pores as CO² rises, which increases a plant's efficient use of water. The importance of these mechanisms differs by plant species. As a result, we found the growth of a small shrub species responded more strongly to CO² enrichment than did blue grama, an important native forage grass of Eastern Colorado."

Rangelands, which account for approximately 50 percent of the earth's terrestrial surface and 70 percent of forage for domestic livestock, are especially sensitive to soil water availability. The team's research results give important insights on how CO²-induced water conservation may alleviate the drying effects of global warming and drought predicted for many world regions; however, these benefits may be offset by changes in plant species composition and nutrient value.

RRRU's findings have contributed valuable knowledge to climate change analyses

conducted by the U.S. Global Change Program, the International Geosphere-Biosphere Programme and the Intergovernmental Panel on Climate Change, and are being incorporated into adaptive management strategies for rangelands.

ARS conducts research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to ensure high-quality, safe food and other agricultural products; assess the nutritional needs of Americans; sustain a competitive agricultural economy; enhance the natural resource base and the environment; and provide economic opportunities for rural citizens, communities and society as a whole. ARS' RRRU conducts research within two major research areas: conservation-production systems for semi-arid rangelands and Global Climate Change. Research includes vegetation and soil changes (transitions/thresholds) in plant communities; managing for multiple uses; range monitoring; invasive species; plant-animal interactions and climate change impacts on rangelands. For more information, visit their website at www.ars.usda.gov/main/site_main.htm?modecode=54-09-00-00#Spotlights.

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