

Scientists explore use of invasive trees to develop jet fuel

23 July 2013, by Ann Perry

Researchers at the U.S. Department of Agriculture (USDA) are exploring options for using invasive trees to develop U.S. Navy fighter jet fuel.

Agricultural Research Service (ARS) scientists at several locations in the western United States are contributing to a project called "Accelerated Renewable Jet Fuel (RJF) Supplies from Invasive Woody Species." ARS is USDA's chief intramural scientific research agency, and this work supports the USDA priority of developing new sources of bioenergy.

In western U.S. rangelands, native juniper and pinyon pine [trees](#) are spreading beyond their historical [ecological niches](#) and disrupting the environmental balance of their expanded range. Preliminary estimates suggest harvesting some of these hardy invaders every year could supply enough biomass to produce millions of gallons of renewable [jet fuel](#). Removing these trees would help restore productive rangeland for livestock and protect critical sagebrush habitat for the western [sage grouse](#) and other animals.

In Burns, Ore., research leader Tony Svejcar and others will inventory trees available for harvest and biofuel production. This information can also be used to determine optimal locations for restoring wildlife habitat and locations where harvests could adversely impact existing wildlife. Svejcar works at the ARS Range and Meadow Forage Management Research Unit in Burns.

The scientists will also focus on devising plans for harvesting the trees in a sustainable manner. ARS research leader Fred Pierson plans to conduct experimental juniper harvests on a variety of sites in Idaho to observe how the removal affects erosion, and will use the information to model the environmental impacts of large-scale tree harvests. Pierson, who works at the ARS Northwest Watershed Research Center in Boise, Idaho, will also be monitoring how juniper removal affects

large-scale water cycles.

Much of the harvest planning will be conducted with computer models that have been developed by ARS scientists and their colleagues. David Goodrich, a hydraulic engineer at the ARS Southwest Watershed Research Center in Tucson, Ariz., will fine-tune modeling estimates of watershed-level rainfall runoff and erosion, which will help guide decisions on where to harvest trees.

More information:

www.ars.usda.gov/is/AR/archive/jul13/trees0713.htm

Provided by Agricultural Research Service

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