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Lubrecht Experimental Forest

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barbara mittal
october 21, 1964

FOR IMMEDIATE RELEASE

A 22,000-acre laboratory--the Lubrecht Experimental Forest--is the scene of numerous forestry research projects being conducted by students and faculty members of the Montana State University School of Forestry.

The forest, located about 35 miles northeast of Missoula in the Blackfoot Valley, was presented to the forestry school by the Anaconda Company and the Northern Pacific Railway in 1937 and 1939. Another smaller portion of the forest was purchased later by MSU. The forest is used each spring quarter as a study camp for sophomores in forestry at MSU.

Until recently the lack of research support has hampered year-around use of the camp. Now, under funds from the Forest Range Conservation Service and the 1963 McIntire-Stennis Bill, research projects in the experimental forest are moving full-steam ahead.

The forestry research is directed toward obtaining valuable information to improve forest management. Some of the studies being made include the effect of available soil moisture on the distribution and productivity of plants and animals, the variation in intensity and effect of fires, farm woodlot management and the effects of a tree's growth rate on wood properties. During the summer, students also collected, identified and mounted plants, birds and animals found in the forest to build an herbarium and bird and animal collection as reference material for the forest camp students and investigators.

One of the foremost projects this fall was the controlled burning of a section of clear-cut logging area. The project is being conducted over a period of years to determine the effects of fire and to study the natural regrowth on the burned area.

(more)

The extreme fear of fire has hampered research into fire pattern and behavior, according to Dr. George Blake, assistant professor of forestry. However, controlled fire can be an important tool in forest management to destroy slash on cut areas and to prepare a new seed bed. Slash, besides being a fire hazard, litters the ground preventing adequate regrowth in areas cut for lumber.

The School of Forestry and the Northern Forest Fire Laboratory at Missoula are conducting the controlled burning project at the experimental forest to provide information for future extensive use of fire in clearing cut areas.

Forty acres of the forest have been divided into three-acre plots which are burned in the spring and fall. The seasonal burning is studied in relation to the weather and fuel conditions and spring and fall burning data are compared.

To study the regrowth and prepared seedbed following a fire, a series of vegetational plots have been marked in the burned blocks. The plots are studied periodically to determine plant succession after a fire.

Experimental burning at the forest is done under the supervision and with permission of the Blackfoot Forest Protective Association. At least one inch of rain must be recorded at the burning site before fall burning is done.

Another study, under the direction of four forestry faculty members, is being conducted to determine the relationship between soil moisture and the distribution and productivity of plants and animals in major forest communities.

Seven sites were selected in areas ranging from driest to wettest environments on the forest. Instruments have been placed at each site to record detailed meteorological data on temperature, humidity and precipitation. These are studies in relation to available soil moisture.

Two by two meter vegetational plots, ecounits, are marked at each site and weekly vegetation readings are made of the growth stages of the plants. Growth measurements are made on three trees of each species at the sites. Animal species at each site also

(more)

are recorded. All of this information is studied in relation to the meteorological data.

Data is collected throughout most of the year. Investigators have snowshoed into the forest ecounits to take readings of temperature and weather when other travel was impossible.

When all of the data has been recorded, sites with characteristics similar to the ecounits will be sprayed with pesticides to determine the effect of the pesticides. The experimental forest is unique because it is the only large forest in Montana which has not been sprayed. By not spraying the foresters can make a continuing study of the effect of any spruce budworm infestation that might occur on the forest.

Wood quality is the topic of other projects at the forest. In one study trees were given more growing space, which increased the growth rate of the trees. A cross section of a felled tree shows the rapid gain in growth when the tree was given more space. The next step will be to compare the wood produced rapidly with that produced under crowded conditions to determine whether there is a difference in the quality of the wood.

The past spring, Dr. Blake began a project in hybridization of forest trees. The initial project is being conducted with Western and Subalpine larch. Other studies of natural hybridization between these species are being conducted. Clint Carlson, a forestry graduate student, spent much of the summer on Lolo Peak, southwest of Missoula, looking for such natural hybrids. Once such trees are identified or produced the wood quality will be determined. The objective of these studies is to determine whether hybrid trees will produce better lumber.

A farm woodlot demonstration plot is being maintained on the forest to illustrate the value of farm woodlots and to show their income producing potential. Studies into the effects of grazing on young conifers also is being made on the forest.

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Even the income-producing projects at the forest have experimental purposes. Timber sales are made on a management plan which provides for an annual timber harvest. The harvest is planned to determine whether forest management is compatible with research, and to provide additional funds for research and a much needed road system which will open new areas of the forest for research.

Grazing on the forest has similar purposes. The effects of grazing on forest land can be studied while grazing fees pay for fire protection under the privately owned Black-foot Forest Protective Association.

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Lubrecht forest--cutlines

CUT A

WOOD QUALITY--Dr. George Blake, assistant professor of forestry, discusses a project in wood properties being conducted at the Lubrecht Experimental Forest. The log cross section was cut from a tree given more growing space which increased its growth rate. The project is to determine whether there is any difference in the quality of wood produced under each condition. (Cyrile Van Duser photo)

CUT B

SOIL MOISTURE STATION--Instruments to record the temperature and soil moisture at seven sites in environments ranging from dry to wet have been placed on the forest. The air temperature, precipitation and snow are studied in correlation with available soil moisture. Data on tree growth, vegetation and animal species at each site also is recorded. Doyle Ward, forestry senior from Witchita, Kan., has been doing work at the experimental forest. (Cyrile Van Duser photo)

CUT C

CONTROLLED BURNING SITE--One of the major projects underway at the experimental forest involves burning three-acre plots of clear-cut logging areas each spring and fall to study fire behavior and pattern. The study will provide information in the use of fire as a means of cleaning up slash littered logging areas and preparing a new seedbed. (Cyrile Van Duser photo)

CUT D

FOREST HEADQUARTERS--The camp headquarters at the Lubrecht Experimental Forest consists of 23 buildings including student cabins, a dining hall, classrooms and a library. Many of the buildings were constructed by students with lumber from the forest. Plans are being made for a new laboratory. The camp's most thorough use is made spring quarter each year when all MSU forestry sophomores live and study there. (Cyrile Van Duser photo)

CUT E

ONE YEAR'S REGROWTH--Vegetational plots are marked on each section of controlled burn so that the foresters can study regrowth after a fire. This plot was marked on an area which was burned in the spring of 1963. (Cyrile Van Duser photo)