

U. S. DEPARTMENT OF AGRICULTURE
PACIFIC NORTHWEST FOREST AND RANGE EXPERIMENT STATION
R. W. COWLIN, DIRECTOR

FOREST SERVICE

Research Note

No. 81

Portland, Oregon

September 1952

TIMING OF SLASH BURNING WITH THE SEED CROP - A CASE HISTORY

By

Roy R. Silen

Studies by Isaac^{1/} indicate that regeneration to Douglas-fir following logging often fails because a good seed crop is destroyed in the slash fire. To prevent this loss during a good seed year, early burning before seed fall starts has been recommended. If early burning is too hazardous, only the concentrations of slash should be burned later in the fall. In contrast, during poor seed years, a complete slash burn should be employed to keep the ground open for the next good seed crop. With favorable seedbed conditions and an ample seed supply, Isaac found that good stocking could be obtained on both burned and unburned surfaces.

A measure of the advantages of early burning was obtained this year in old-growth clearcuttings on the Blue River Experimental Forest in the Oregon Cascades. A heavy seed crop was expected over most of the Blue River area in the fall of 1951. Part of one 30-acre clearcut was purposely burned in mid-August 1951 prior to seed fall. Part of an adjacent 40-acre clearcut was burned in mid-October--the normal slash-burning period--after at least half the seed had fallen. Portions of both areas were left unburned.

After germination was complete in June 1952, seedling counts were made on 100 milacre quadrats in each unit, 50 on burned and 50 on unburned surfaces. As shown in the following tabulation, about the same number of seedlings were found on the unburned surfaces in each unit and on the area burned in mid-August prior to seed fall. Only about half as many seedlings were found on the area where the slash was burned in October.

^{1/} Isaac, Leo A. Reproductive habits of Douglas-fir. Charles Lathrop Pack Forestry Foundation, 1943. pp. 83-86.

<u>Area</u>	<u>Treatment</u>	<u>Milacre plots stocked with one or more seedlings in percent</u>
30-acre clearcut	August burn	49
" " "	unburned	52
40-acre clearcut	October burn	25
" " "	unburned	58

While these initial records of seedling germination are not conclusive, they indicate that planned slash burning when used to help save the seed crop can mean the difference between a well-stocked and a poorly stocked stand of Douglas-fir seedlings.