The theme of the forestry session is: "The Government and forest resource management." The present announcement is a call for contributed papers for the meeting. These papers should relate to the general theme of the session, but can treat specific aspects of interest to the writers. Three copies of proposed contributed papers should be sent to Clyde A. Fasick, USFS, Forestry Sciences Laboratory, Carlton St., Athens Georgia, 30601, no later than June 1, 1972.

Forest economists participated in last year's

AAEA meeting and in general found it to be a stimulating means for focusing on specific problems of common interest and for meeting with other natural resource economists. This year's meeting should be of equal interest, since it will focus on critical issues of current interest to researchers and forest managers.

For additional information on the program, housing, costs, etc., please contact Professor Ed Sullivan, School of Forestry, University of Florida, Gainesville, Florida 32601.

Saskatchewan Pulpwood uses rubber-tired skidder for scarification

Saskatchewan Pulpwood Limited is a subsidiary of the Prince Albert Pulp Company and the supplier of pulpwood to the mill in Prince Albert.

Since 1969, Saskatchewan Pulpwood has been carrying on a scarification program on jack-pine cutovers and soon hopes to expand operations to cover upland black spruce areas as well. The first trials in the fall of 1969 covered only 236 acres but with the acquisition in 1970 of a new skidder to pull the scarifying equipment, coverage rose to 1506 acres and to 3373 acres in 1971. Plans are for a second machine in 1972 and an anticipated coverage of 7,000 acres.

The equipment presently used for scarification consists of a 668 Clark Ranger skidder which is powered by a 193 hp GM diesel engine. The skidder pulls five ship-anchor chains - each 20 ft long - which are attached to a 14-ft spreader bar. Each link of the chain weighs 32 lb and has heavy steel spikes welded to it. The total weight of chains and spreader bar is approximately 6,000 lb. Since acquisition, the 668 has covered 4431 acres at an average cost of \$5.98/acre and at a rate of 4 acres/hour. With a second machine planned for the coming season, costs should drop further. Prior to obtaining the skidder, Saskatchewan Pulpwood used a TD20 International crawler

tractor to pull the scarifying chains but found that the machine could only cover 2 acres/hour and costs averaged \$12.00/acre.

Scarification is usually done in the first or second summer following harvest, giving the cone bearing slash adequate time to dry out. The chains then break down the slash while the spikes tear the needle or grass mat covering mineral soil. We feel our equipment achieves both good slash breakage and good mineral soil exposure. In the fall of 1971, scarification operations continued until the middle of December and ceased only because the accumulation of approximately six inches of snow

prevented the spikes from penetrating the duff layer. An area with a very thin duff layer and light sandy soil was purposely chosen for this time of year with the thought that very little soil exposure was either required or desired on this particular site. Very little wheel slippage was experienced in the snow, even without chains and considering the tires were becoming worn after a long season of use.

The machine was operated on a single shift, single operator basis last year, with the operator working overtime when daylight permitted. It is felt that during the months of May, June and perhaps July, when the average daylight pe-

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riod is sixteen hours, two shifts can be run. Also, if two machines are used this coming season, both will work in the same area, either scarifying in tandem or in areas close to each other. This adds a valuable safety factor since scarification is usually carried out after harvesting operations have moved to other areas and the scarifying operators work essentially alone. Running two machines together also requires only one vehicle for transportation, one maintenance and fuel setup, and allows a greater stock of parts to be inventoried by the company, rather than relying on the dealer's stock.

Since scarification has only been carried on for three seasons, results are inconclusive but encouraging. On our areas germination of jackpine seed occurs for at least three seasons following scarification, the amount decreasing with time. Stocking figures after one year show 50%-70% stocking, and after two years as high as 95%. It is possible that some thinning may be required in these high-stocking stands but, better yet, from the results obtained to date, we can re-arrange the scheduling of operations so that sites with heavy cone crops or light soil are done late in the year when soil exposure will be less, or fewer chains on the spreader bar can be used.

In summary, Saskatchewan Pulpwood is very pleased with the 668 Clark Ranger skidder and with the results obtained. The jackpine scarification program will probably level off at about 5,000 acres annually. Equipment is being sought for black spruce scarification; other sivicultural applications, such as strip-thinning, are also thought to be compatible with the 668. With savings accumulated in scarification, we have freedom to expand other regeneration programs such as planting and a whole new array of possibilities presents itself.

Stephen Smith
Saskatchewan Pulpwood