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Rocky Mountain Aspen For Pulp: Some Market Opportunities And Limitations¹

Thomas J. Loring^{2/}

Abstract.--Aspen compares favorably with most hardwood species preferred for pulping. Relative abundance and pulping ease contribute to aspen providing more than half of the Lake States pulpwood. Few pulp mills in the Rocky Mountains can now use aspen, and distances limit aspen shipment to mills elsewhere. However, projected rising fiber demand and the need for aspen management in the Rockies should help promote viable markets for pulp and fiber from local aspen.

While it is considered a short-fibered, relatively low density species, aspen compares favorably with most of the hardwood species preferred for pulping. Currently, in the Lake States, aspen is reported as providing more than half of the total pulpwood cut -- amounting to something over 2 million cords of aspen per year.

Undoubtedly, the abundance of aspen fairly close to established pulp mills is a factor in its increasing use in certain areas. Abundance, plus the fact that aspen is readily digested by most pulping processes (with predictable yields of 52% for sulfite, 54% for kraft and produces a pulp suitable for corrugated medium or easily refined for use in book and specialty papers, also are positive opportunities in marketing of aspen for pulping.

A major limitation on marketing aspen for pulp in the Rocky Mountain area at this time is the limited number of pulp mills in the area and the great distances to established mills elsewhere. Almost certainly, other limitations include: financial constraints on modifying or expanding existing pulp mills or constructing new ones, uncertainly as to actual assured volumes of aspen available over the long term, and the fact that rather than producing marketable by-products such as tall oil, aspen pulping tends to produce broken and short fibers which can be a disposal problem.

^{1/} Paper presented at the symposium on Utilization and Marketing as Tools for Aspen Management in the Rocky Mountains, Ft. Collins, Colorado, Sept. 8-9, 1976

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With the Nation's rising demands for fiber products and some definite moves towards serious management of aspen stands in the Rockies, it appears inevitable that aspen pulp for a variety of markets will be produced eventually in the Rockies. Certainly, aspen can provide considerable volumes of furnish for molded fiber items such as egg cartons, extenders for plastic or composition products, corrugated, medium and even structural particle board -- all of these from relatively unrefined pulp which conceivably could be derived from whole-tree chips produced in the woods.

With further refining, bleaching, etc., aspen pulp can supply all or a major part of the furnish for quality printing and specialty papers. Some recent work even appears to suggest that aspen pulp could be a major source of livestock feed for sheep and cattle.

Background Notes on Pulping Aspen

Relative Yields Percent

<u>Process</u>	<u>Aspen</u>	<u>Ponderosa Pine</u>
Kraft (Sulfate)	54	48
Sulfite	52	45
Groundwood	95	95

Relative Specific Gravity

<u>Aspen:</u>	<u>Green</u>	<u>Air Dry</u>
Quaking	0.35	0.38
Big Tooth	.36	.39

<u>Pine</u>		
Lodgepole	.38	.41
Ponderosa	.38	.40
<u>Average Fiber Length mm</u>		
<u>Aspen</u>		
Quaking	1.20	
Big Tooth	1.20	
<u>Pine</u>		
Lodgepole	3.50	
Ponderosa	3.60	

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