

Establishment of Transportation System of Low Value Wood Biomass for the Early Stage of Energy Supply

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Low value wood biomass supply for energy utilization has just started in Japan. It was found that many problems existed within the current biomass supply chain. One of the problems is how to establish the harvesting method of low value biomass from forest to larger vehicles accessible landings. Whole tree harvesting has been practiced, but low value biomass such as tree tops, branches, and small diameter trees is left at forest roadside by the reason of expensive harvesting cost of such biomass. The narrow width of the conventional forest road restricts the size of trucks and forestry machines. Although not a few efforts to harvest low value wood biomass have been practiced, the best way has not been obtained. The object of this study is to clarify the efficient system from forest to destination landing by various vehicles according to the road standard conditions. Container trailers were always the cheapest system. Roll-off trucks were indeed indispensable, but it was found that the combination of trailer and container forwarder was the next cheapest system when transportation distance exceeded about 30 km.

Key words: chip transportation, container, forwarder, landing, trailer