
Tigercat
Focus On Forest Engineering 2010
Forest Biofuels: A Green Resource?
White River
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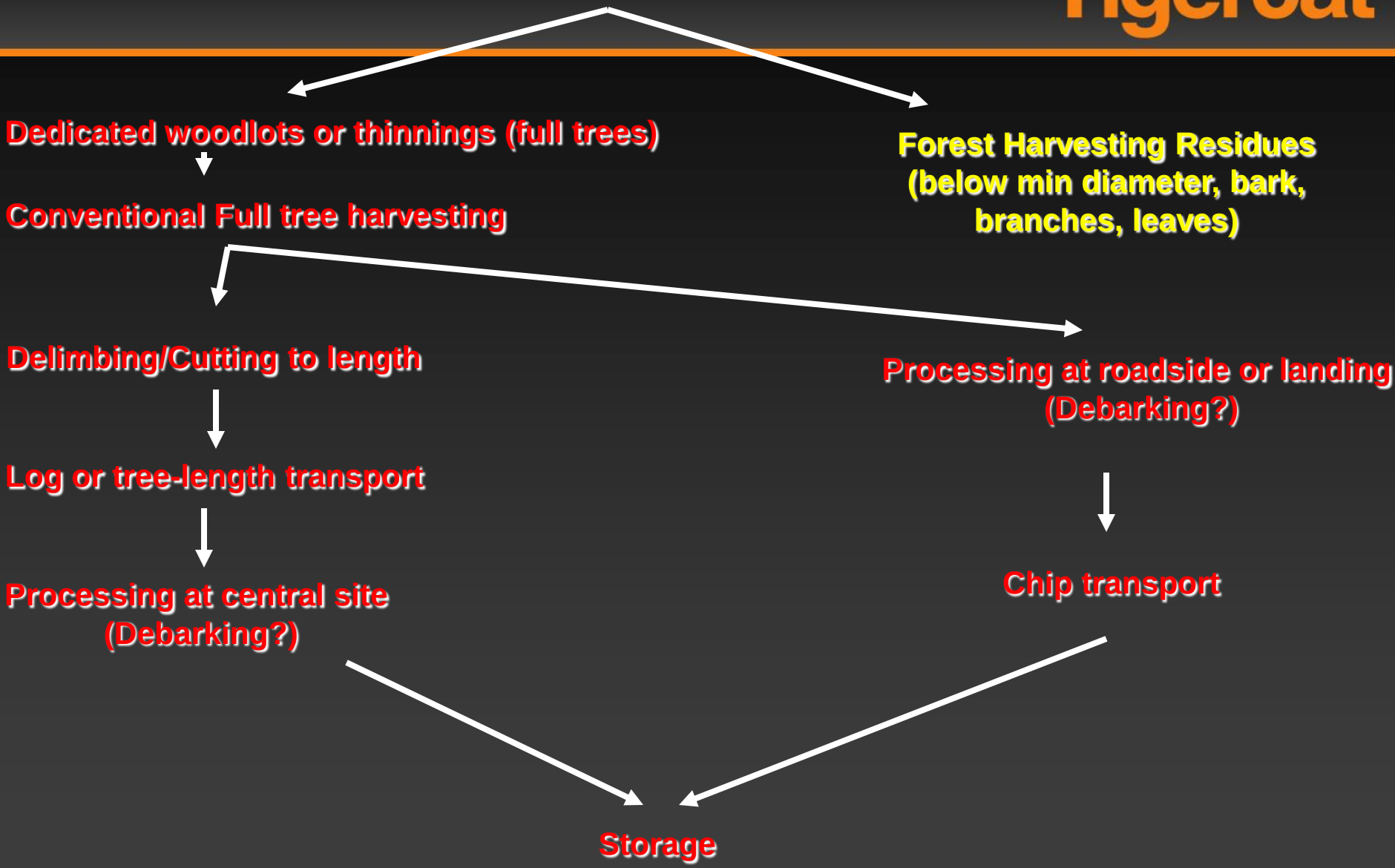
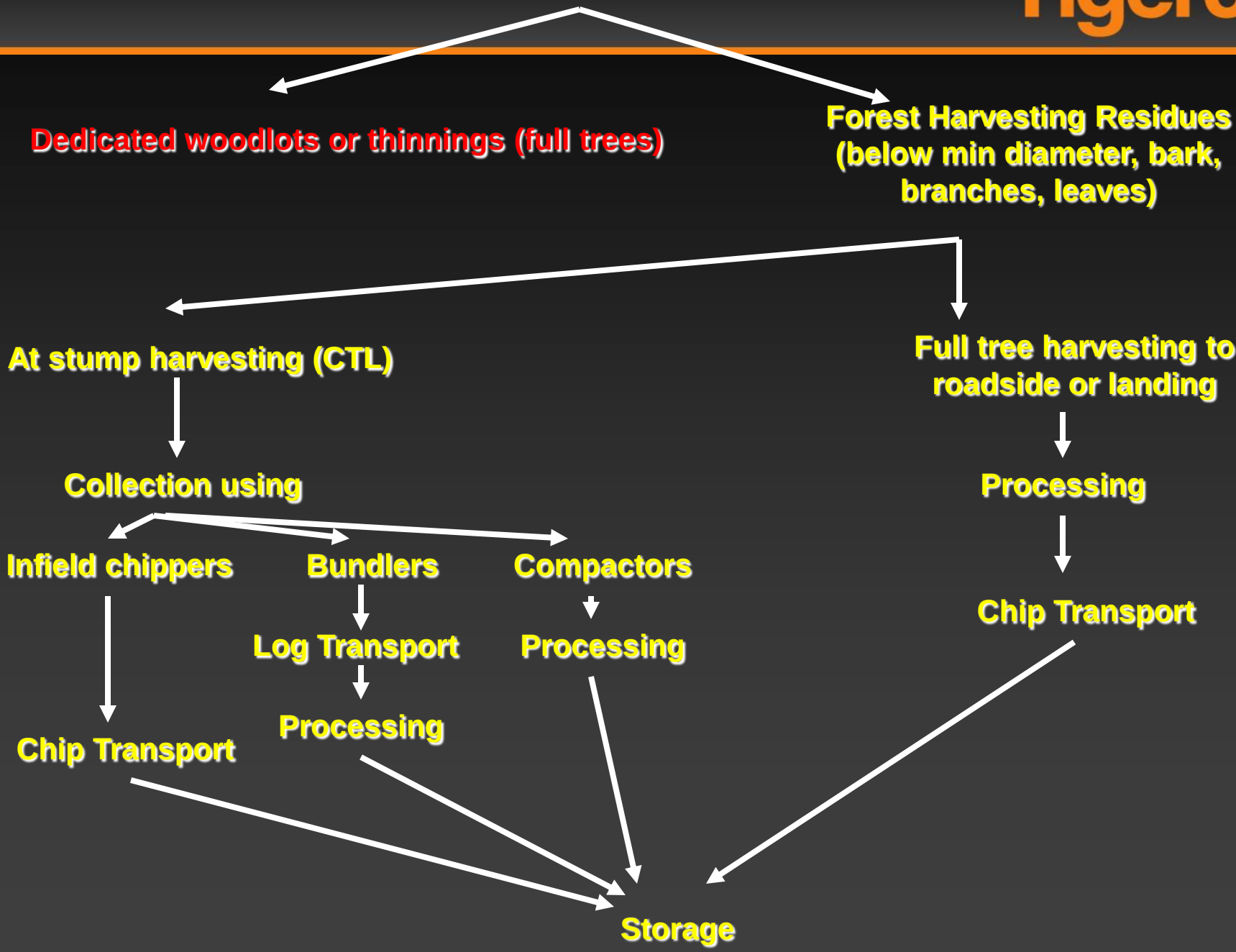


Forest biofuel fibre resource



Forest Biofuel sources, harvesting systems and the cost of collection

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1. **Dedicated forest biofuel woodlots or thinnings using conventional full tree harvesting methods**

(lowest cost)

Highest yields per ha

Highest productivity during full tree harvesting and extraction

Highest throughput during processing to chips

Best potential efficiencies if transporting unprocessed

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2. Forest harvesting residues on road side or landing after full tree harvesting (second lowest cost)

Residues are collected and extracted in the most efficient and cost effective format (part of your harvesting process and cost) – no secondary collection element – second highest yields per ha

Residues are centrally stockpiled (roadside or landing) for subsequent processing

Efficiencies gained during processing because of minimised processing equipment movement

Simplified transport logistics

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3. **Forest harvesting residues collected infield after at stump harvesting (highest cost)**

Lowest yields per ha because not all the available material can be collected

High capital cost equipment (mobile chipper/forwarder combination - $ 1 million) for this process

Low productivity and efficiency because of residues not stockpiled – lots of traveling to extract residues – trials have shown this collection to be a higher cost than the pulpwood harvesting costs

Conventional harvesting technology

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Conventional harvesting technology

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Conventional harvesting technology

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Conventional harvesting technology

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Conventional harvesting technology

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Rubber wood and Palm oil experience

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World 2009 Palm Oil production Metric Tonnes – 47 million – planted area estimated at around 15 million hectares

World rubber wood area estimated – 9 million hectares


CAT


Palm Oil

Processing options

Continental Biomass Industries, Inc.

Continental Biomass Industries, Inc.

Continental Biomass Industries, Inc.

Continental Biomass Industries, Inc.

Continental Biomass Industries, Inc.

Conclusion

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Your harvesting system chosen has to consider your biofuel requirements before first tree is cut

Your biofuel collection and extraction method can only be cost effective if it is part and parcel of your harvesting system and not a separate operation

To achieve any possible transport efficiencies with forest residues you have to consider on site processing

There are no right or wrong harvesting systems only appropriate ones!!!