hardwoodbiofuels.org

Advanced **Hardwood Biofuels** Northwest

Growers manual and other poplar resources

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Feedstock Conversion Sustainability Education Extension

USDA United States Department of Agriculture National Institute of Food and Agriculture

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Advanced **Hardwood Biofuels** Northwest

ABOUT | PROJECTS | AUDIENCES | NEWS AND EVENTS | RESOURCES | COLLABORATORS

- AHB Feedstock
- AHB Conversion
- AHB Sustainability
- AHB Education
- AHB Extension

AHB

Advanced Hardwood Biofuels Northwest (AHB) is researching and developing ways to grow and convert hybrid poplars into bio-based chemicals and liquid biofuels.

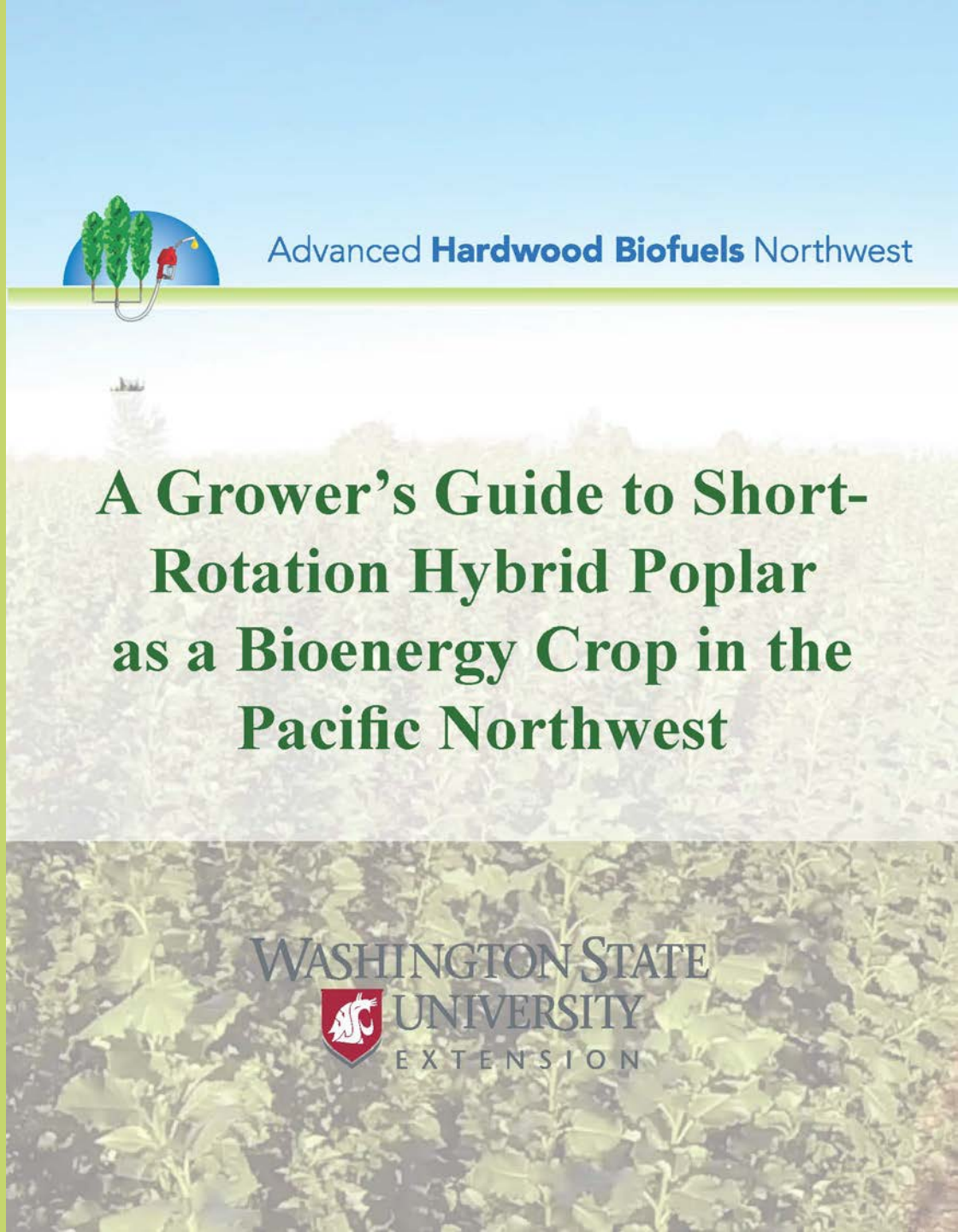
INFORMATION *for* **Policy Makers**

INFORMATION *for* **Environmental Professionals**

INFORMATION *for* **Educators k-12**

INFORMACIÓN *para* **En español**

Poplar Grower's Manual



Contents

Poplar Pests

- Identification
- Best Management Practices specific to poplars
- Extension factsheets

Western Poplar Clearwing Moth

Poplar-Willow borer

Poplar Disease

- Descriptions
- Treatment information
- AHB endophyte research

Leaf rust (*Melampsora*)

Leaf blight of Septoria (*Septoria populicola*)

Site Selection

Soil quality	Optimal	Marginal	Unsuitable
Texture	Sand loam – clay loam	Sandy clay, sandy loam, silty loam	Clay
pH	5.5 – 7.5 pH	4.5 – 5.5 pH 7.5 – 8.0 pH	< 4.5 pH > 8.0 pH
Salinity	0 – 2 dS/m	2 – 4 dS/m	> 5 dS/m
Depth	> 40 inches	20 -40 inches	< 20 inches

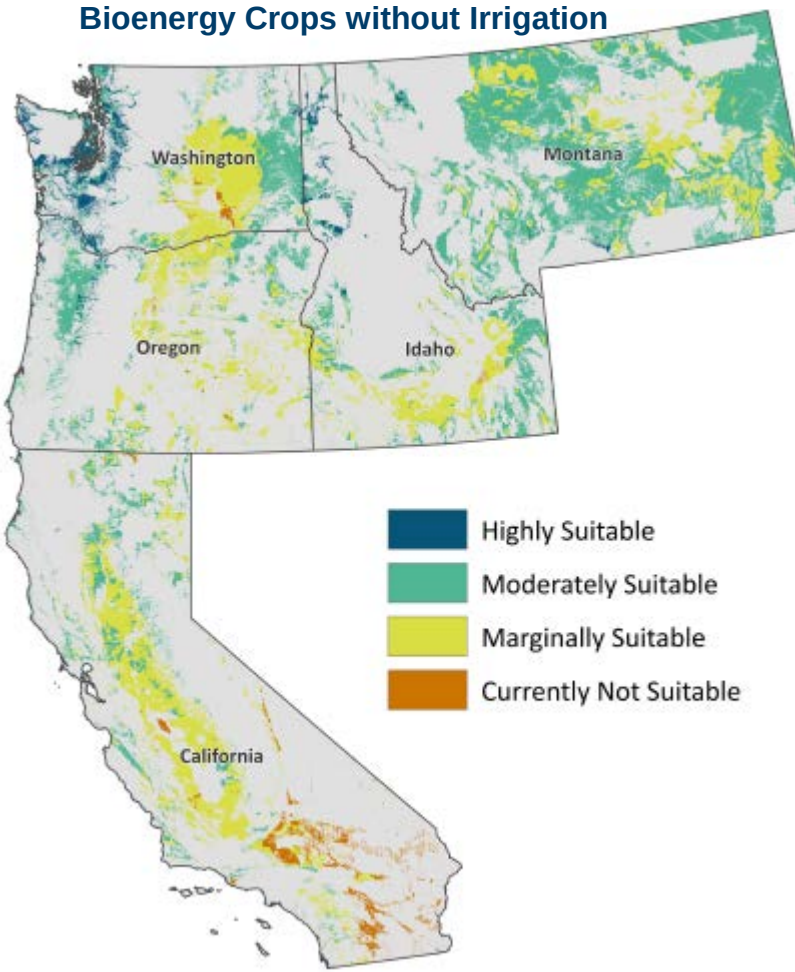
Soil Depth to Water Table			
Unsuitable – too shallow	Marginal shallow	Ideal	Marginal deep
< 20 inches	20 – 40 inches	40 – 100 inches	> 100 inches

Precipitation Suitability Ranges		
Average monthly precipitation (in) from April to September.		
Unsuitable - Too dry	Marginal dry	Ideal
0 -1 inches	1-2 inches	≥ 2 inches

Other Factors to Consider:

- Nutrients
- Slope
- Surface rocks
- Field size
- Proximity to markets
- Growing season length
- Climate

Overall Suitability Classification for Poplars Bioenergy Crops without Irrigation



Land Suitability Study

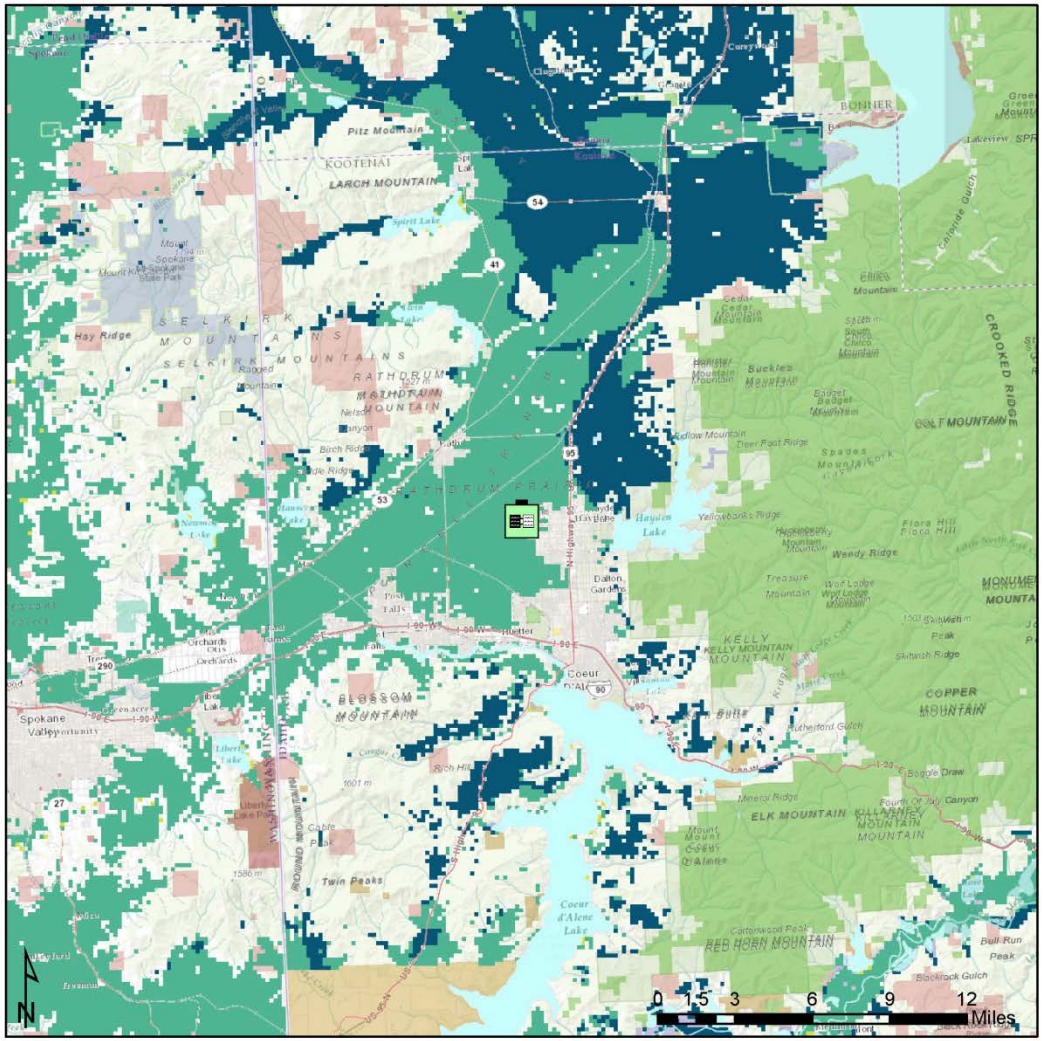
Hayden

Highly Suitable acres within 20 miles: 99,384

Moderately Suitable acres within 20 miles: 136,323

Suitability without Irrigation

- 80% to 100% - Highly Suitable
- 60% to 80% - Moderately Suitable
- 40% to 60% - Marginally Suitable
- 0% to 40% - Currently Unsuitable



Public and Conservation Lands

Owner Name

- Tribal Land
- Bureau of Land Management (BLM)
- Bureau of Reclamation (BOR)
- City Land
- County Land \ Regional Agency Land
- Department of Defense (DOD) and Department of Energy (DOE)
- Fish and Wildlife Service (FWS)
- Forest Service (USFS)
- National Park Service (NPS)
- Other Federal (TVA,NRCS,NOAA, etc.)
- Private Conservation; Private Corporation
- State Trust Land
- State Fish and Wildlife
- State Parks and Recreation
- Other State (NHP,DOT,HS,etc.); State University
- The Nature Conservancy (TNC)
- Territorial Land
- Joint, Other, Unknown Owner Land

Site Establishment

- Field layout
- Site prep
- Clone selection
- Planting

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