

Biochar Products

Forest Service CRADA
(Cooperative Research and
Development Agreement)

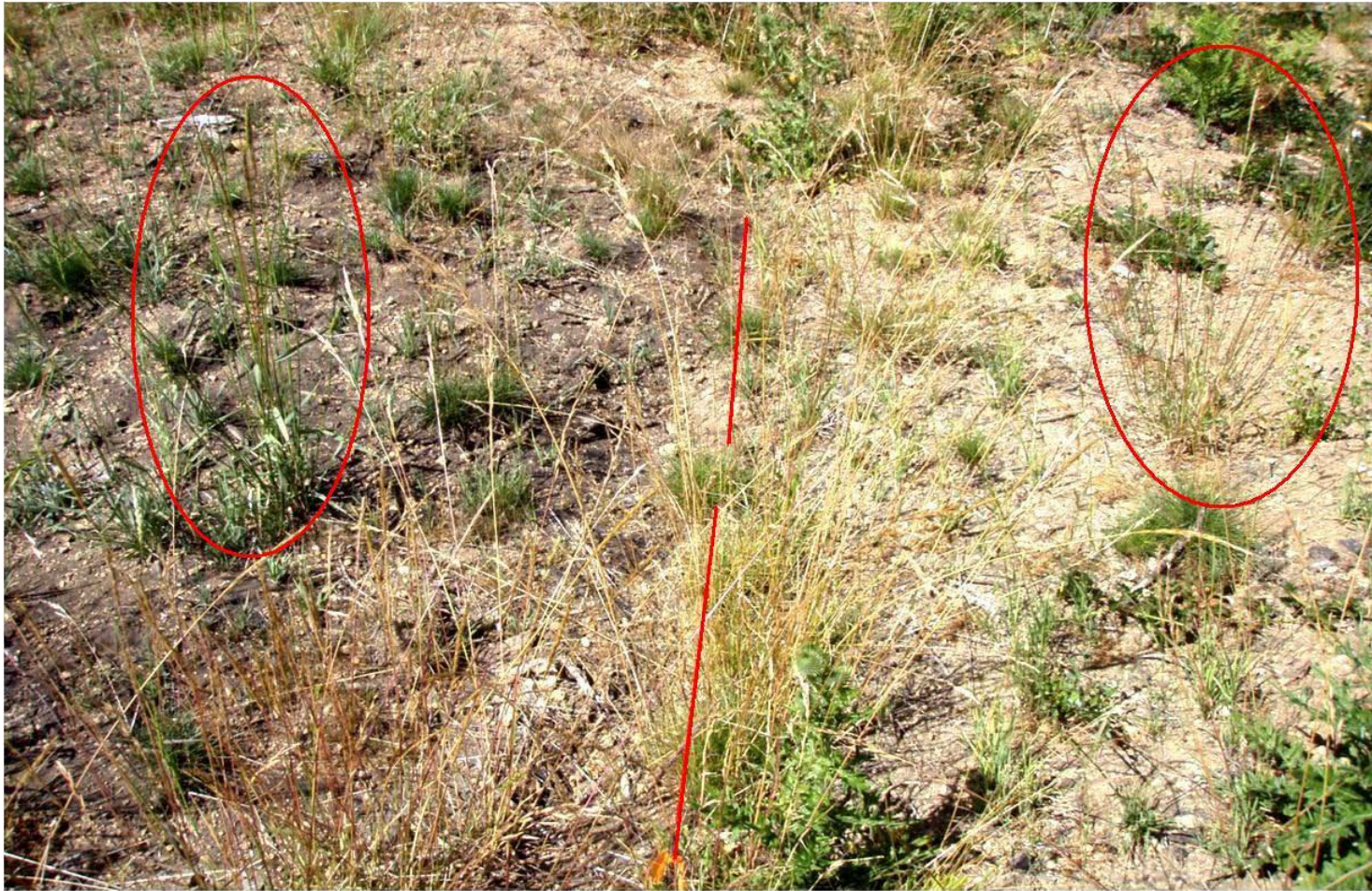
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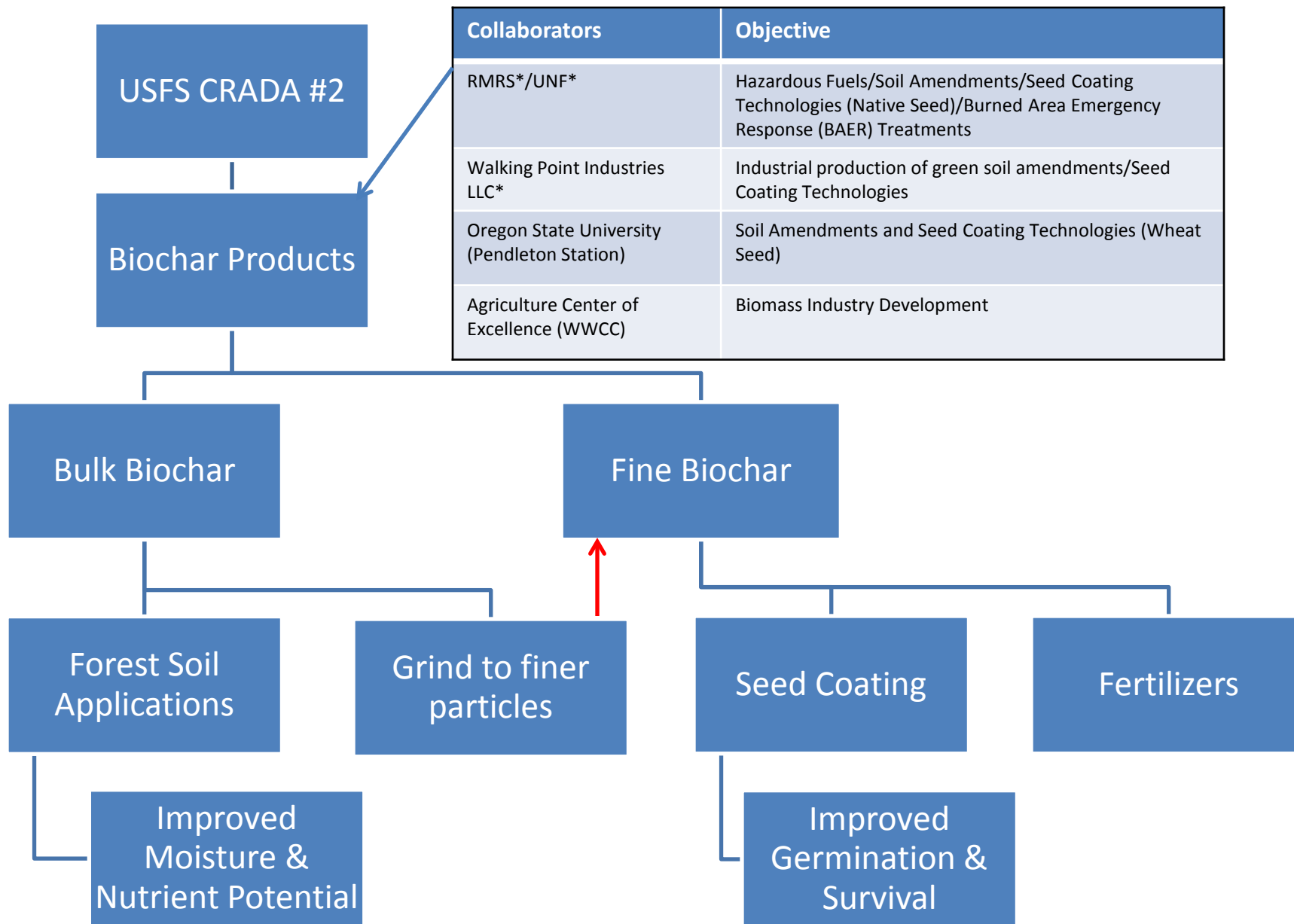
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Past Soil Amendment Projects Umpqua NF Installation



Past Soil Amendment Projects Preliminary Results





* Primary Cooperator, others are subordinate. Primary Cooperator may also have additional unnamed collaborators

- Bulk Biochar

- Broadcast Applications

- Improve Soil Moisture
 - Need Less Anecdotal Data
 - Improve Soil Nutrient Content
 - Need Less Anecdotal Data

- Fine Biochar

- Product development Seed Germination Post-Fire from 0.75% to 37% (Madsen 2012)

- Replace Activated Carbon as a Seed Coating (proven)
 - Increase seed germination and survival (pending)
 - Native Seed (i.e. Mt Brome \$15/lb avg 10lb/ac)
 - Wheat Seed (alter needs for irrigation or fallow season)
 - Fertilizer Augmentation (pending)

Proposed Biochar Uses

- Unprocessed Biochar Uses – Broadcast Applied Chunks
 - Tree Plantations
 - Restorations for Big Game or Tree Health
- Processed Biochar
 - Seed Coating/Broadcast
 - Agricultural
 - Fallow practice converted to continuous harvest without irrigation
 - Forest
 - Burned Area Emergency Response
 - Rehabilitation Projects
 - Road Side Pollution Catchments
 - Federal Highways