1. Have you investigated turning dead trees and forest slash into biochar with on site smokeless kilns? The biochar could be spread onto the soil under the healthy trees, which would hold water like a sponge during droughts?
    a. That is an interesting idea. Later in the series we will discuss biochar and uses.

2. Where should we go to find the best available science on tree species vulnerabilities to climate change in southern Oregon?
    a. The SW Oregon Adaptation Partners, an interagency consortium, has synthesized the best available scientific information to assess climate change vulnerability in southwest Oregon. See the General Technical Report (Part 1, Part 2) including the summary of vegetation effects in Chapter 5 (Part 2), pp 12-112 and especially pp 39-47. For a summary including individual species responses, see the Vulnerability Assessment Summaries, pp 19-20.

3. Did you say flagging? to describe a tree's response to pathogens?
    a. Flagging is when individual branches die and turn red/brown. They stand out in the crown like a flag!

4. Pine is more drought resistant than Douglas fir. Should we shift to pine? We have no pine mills in the Roseburg area
    a. That is a really difficult question and you are right, pine is tough to find a mill and it is not as commercially valuable. I'd stay with DF at least in part In general, we'd suggest maintaining species diversity. Don't put all your eggs in one basket. However, you could favor a higher proportion of heat and drought tolerant species like ponderosa pine on those tough sites.

5. How is it that NE OR is evading the effects of drought in the west?
    a. That is just temporary in this immediate drought. NE OR has been generally hit pretty hard.

6. Do we need to re-think the idea in our seed orchards that fastest growth is the ultimate goal? I think I already know the answer to this, but I'd like to hear your response.
    a. That is an interesting point. The fastest grower may not be most drought tolerant. I think we need to keep doing progeny tests regarding Douglas-fir and regional genetics of drought tolerance.

7. I'm in northern westside WA. Seeing phomopsis canker on harsh sites killing tops, limbs, and sometimes whole trees in new plantations. Even on site 2 ground. Disturbing.
    a. Those young glacial soils can be harsh during drought. WA DNR is reporting lots of drought issues in young west side plantations recently.

8. We're watching the northward advancement of C4 plants, are there any C4 conifers? (Think Dominique may have answered this one.)
    a. I did a quick check an apparently C4 is only in flowering plants, not conifers.

9. Do we have VPD data prior to 2000?
    a. Dominique: Yes, Chris Daly, head fo the PRISM group at OSU has climate data since 1895. Of course more uncertain until 1950s but we do have records f VPD in the 20th century.

10. What are some management practices that can slow the spread of timber beetles?
    a. The primary management for bark beetles is density management to prevent competition and improve the ability of the tree to defend itself.

11. How is alder doing in the coast range of Douglas and Lane Counties?
    a. Alder is a good tree for some sites along the coast. Good to consult with local foresters about suitable sites for plantations.