A major problem in using biomass for ethanol production is the presence of lignin in the plant biomass. The lignin must be removed for efficient cellulose isolation and conversion to ethanol. There are many ways to address this problem.

Topics that should be covered (not limited to these topics):
- What is lignin?
- What is the chemical nature of lignin?
- How does lignin function in plants?
- What processes can be used to remove lignin from biomass for biofuel production?
- How can plants be modified to reduce lignin content?
- How does lignin affect the production of ethanol?
- What uses does lignin have once removed from the biomass?
- How can lignin be used to reduce overall carbon emissions from using biomass produced ethanol as a fuel?