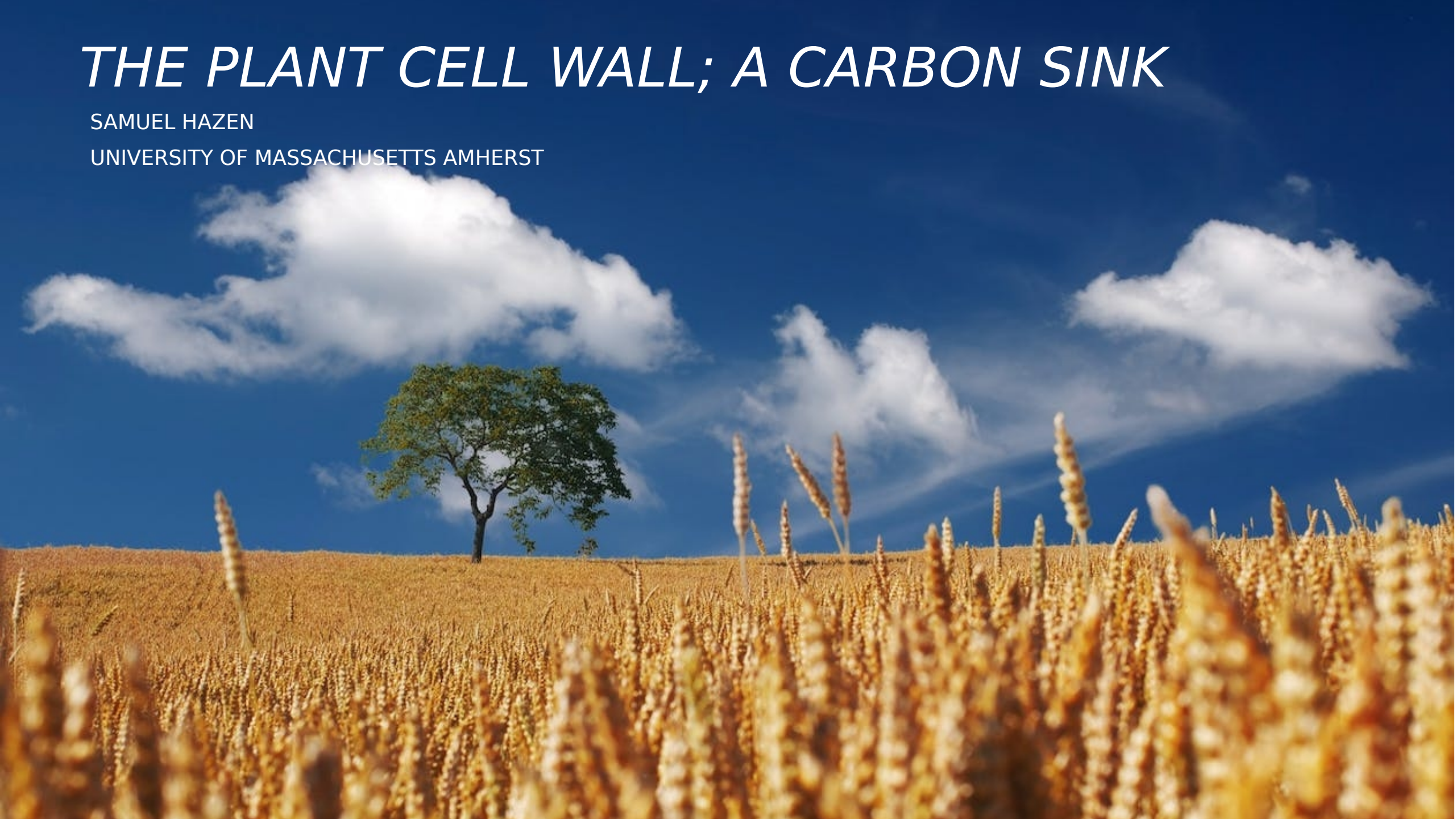


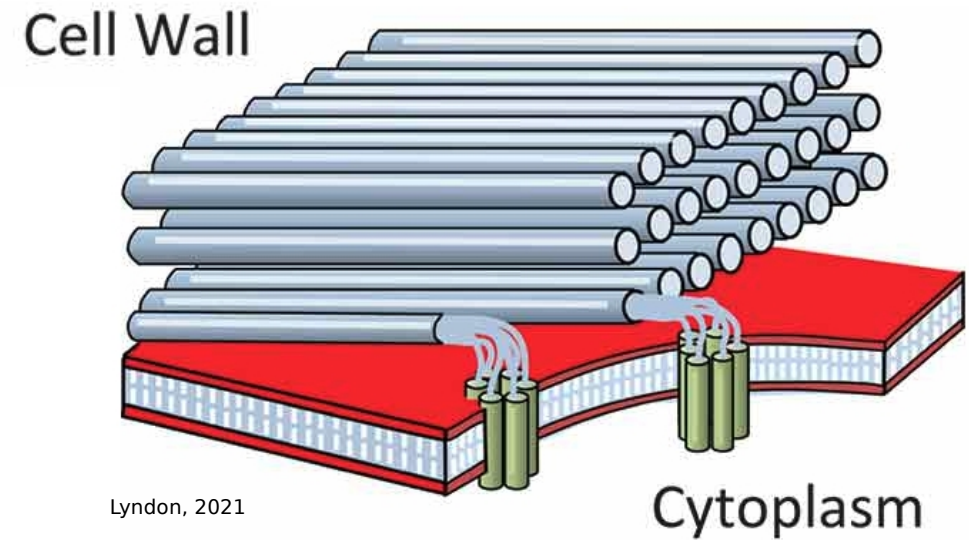
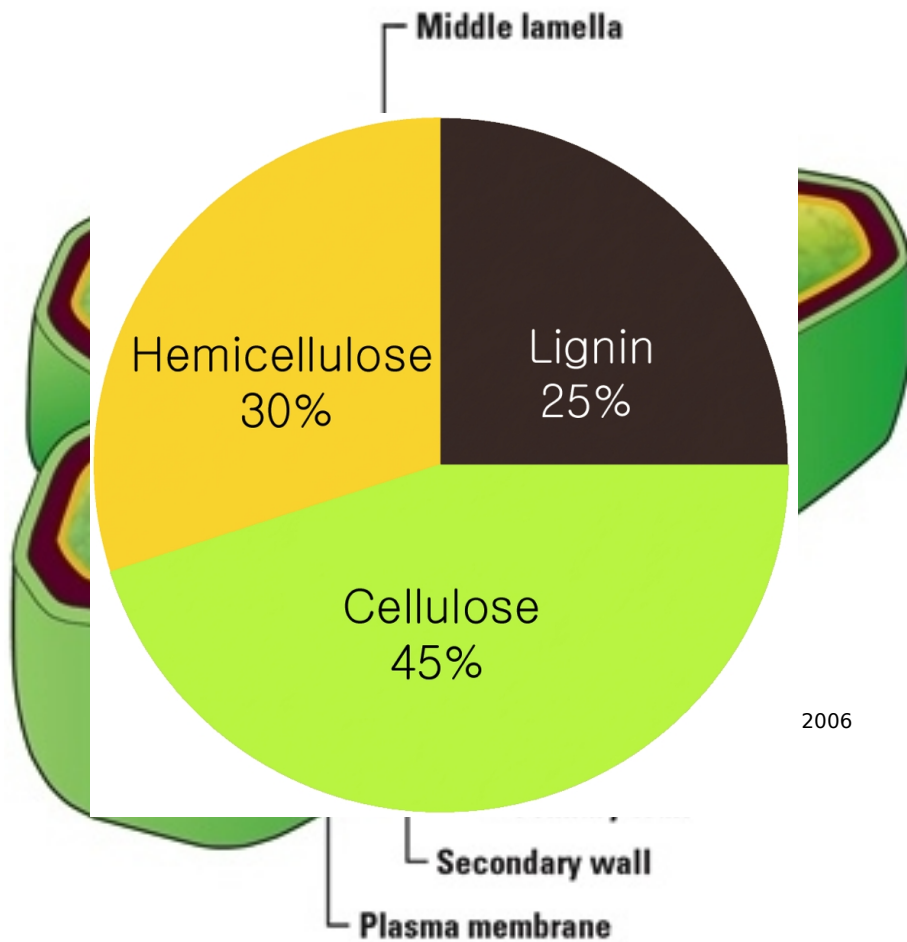
THE PLANT CELL WALL; A CARBON SINK

SAMUEL HAZEN

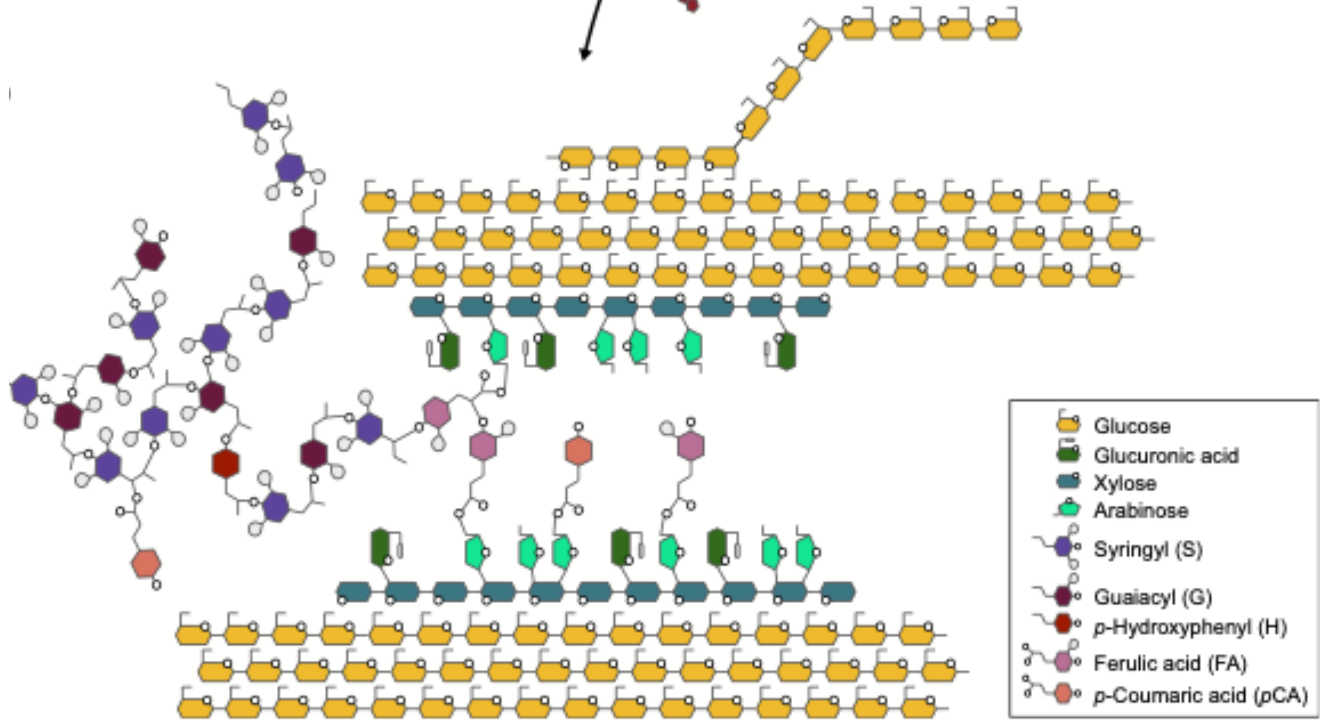
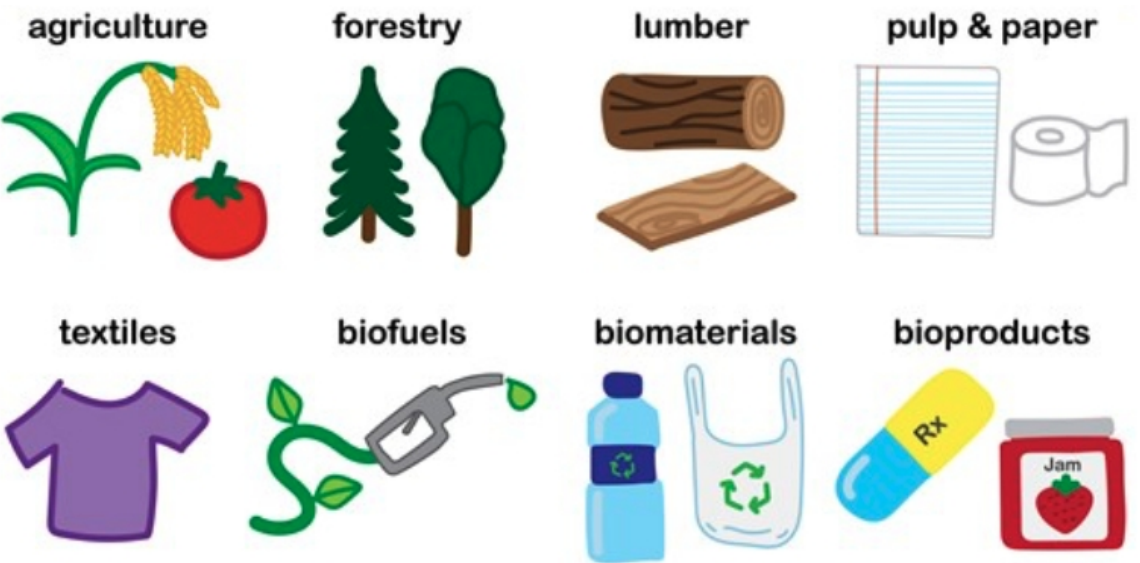
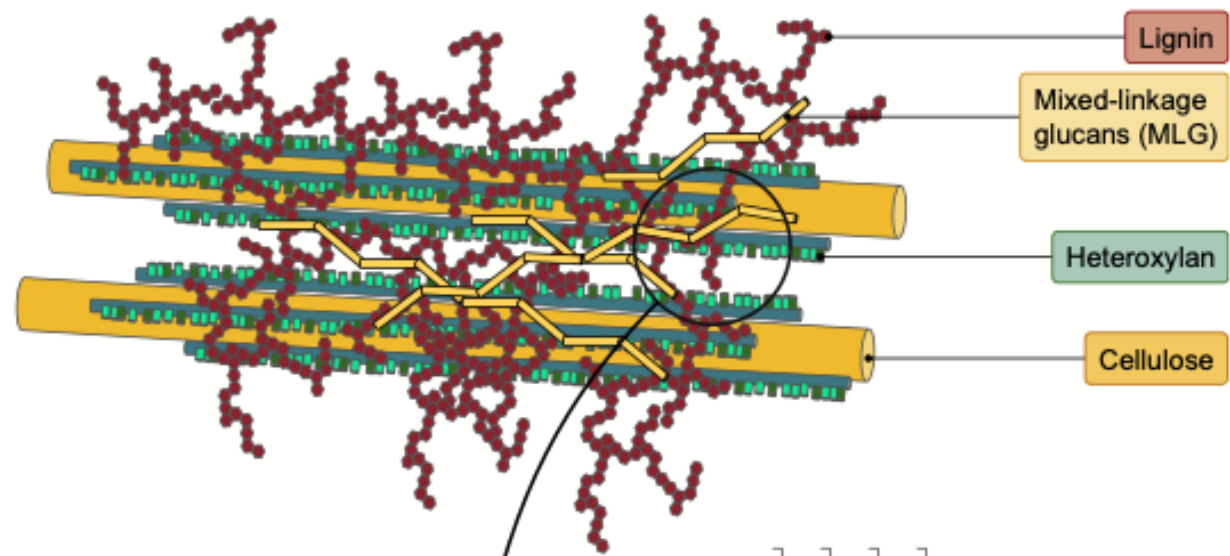
UNIVERSITY OF MASSACHUSETTS AMHERST



PLANT SECONDARY CELL WALLS



GENERAL SCHEMATIC OF GRASS SECONDARY CELL WALL MATRIX



McFarlan, 2023

Coomey et al, 2020

QUESTIONS AND GOALS

Basic unknowns

- Unknown biosynthesis components
- Determinants of polysaccharide complexity
- Movement of biosynthesis complexes
- Timing and signaling of biosynthesis and assembly

Applied goals

- Growth quantity
 - Product yield
 - Carbon sequestration
- Growth quality
 - Functionality
 - Carbon sequestration