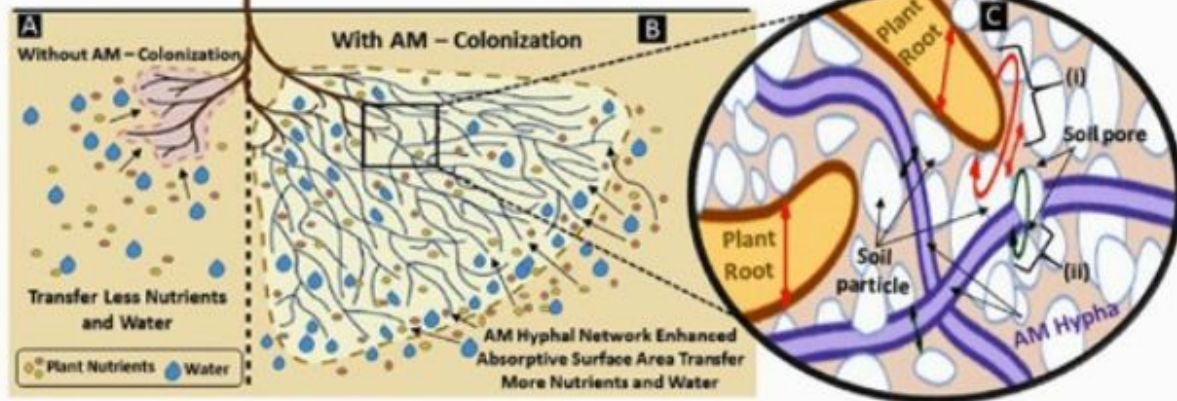


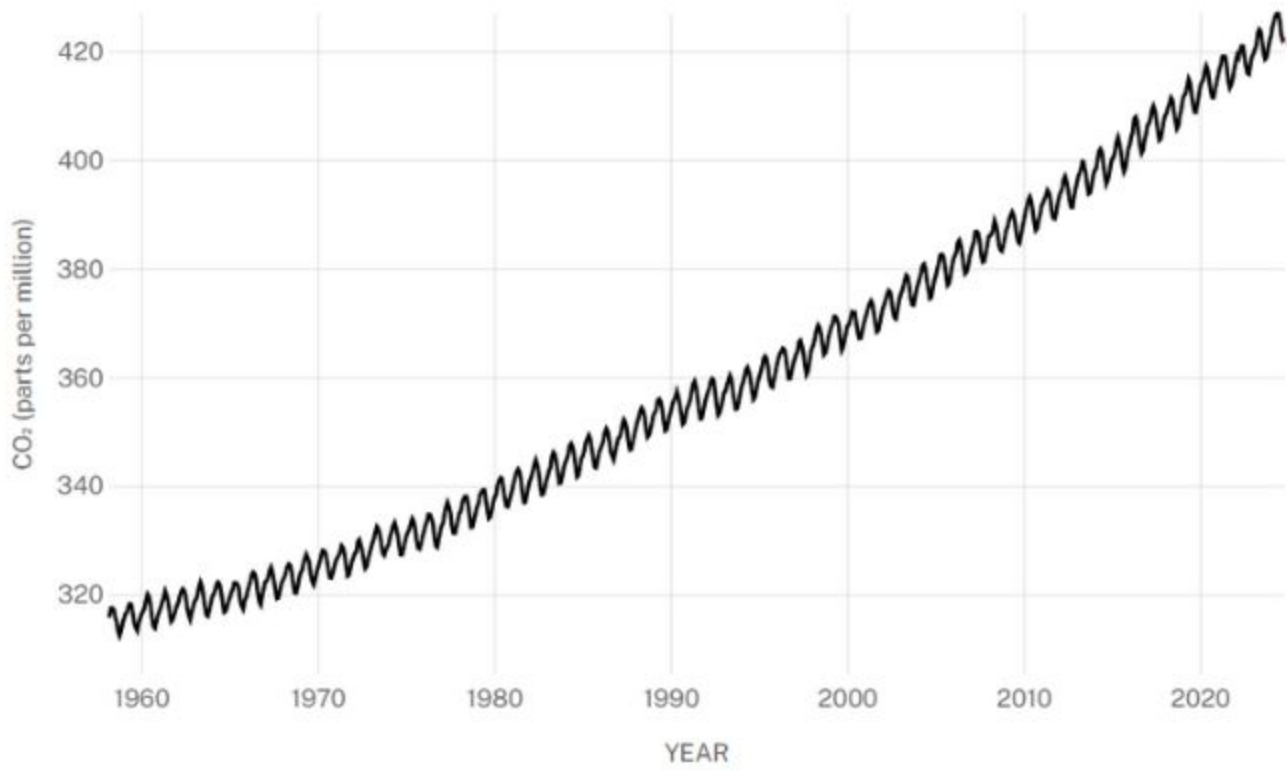
Evaluating the Effect of Carbon Dioxide on the Rate of Transfer in Mycorrhizal Networks.

Jessica Froment

AM ACTIVE MYCORRHIZATION IMPROVES –

- ✓ Plant Nutrition Delivery
- ✓ Plant Growth and Crop Productivity
- ✓ Soil Quality and Fertility
- ✓ Abiotic Stress Tolerance
- ✓ Resistant to Pathogen



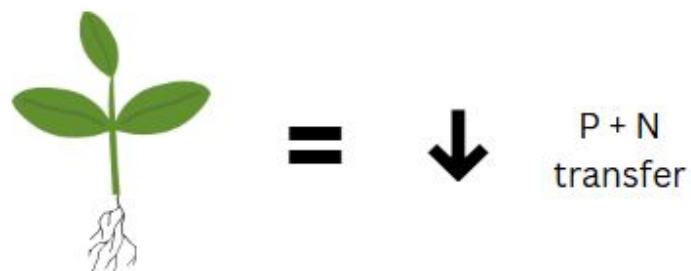
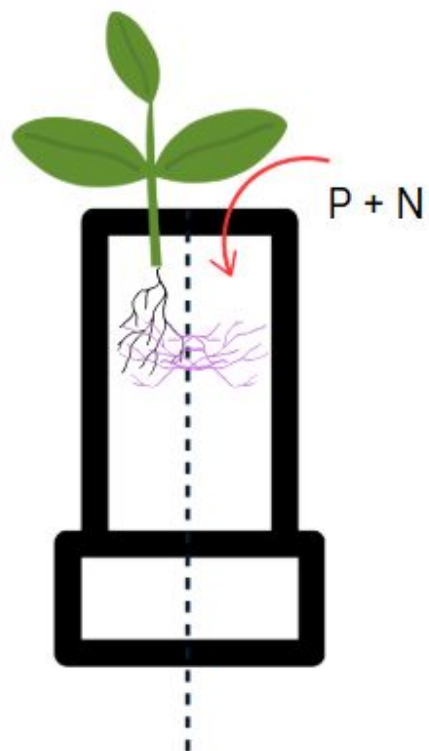


- Human activities have raised the atmosphere's carbon dioxide content by 50% in less than 200 years.
- There is little to no research on how this impacts mycorrhizal fungi and there networks

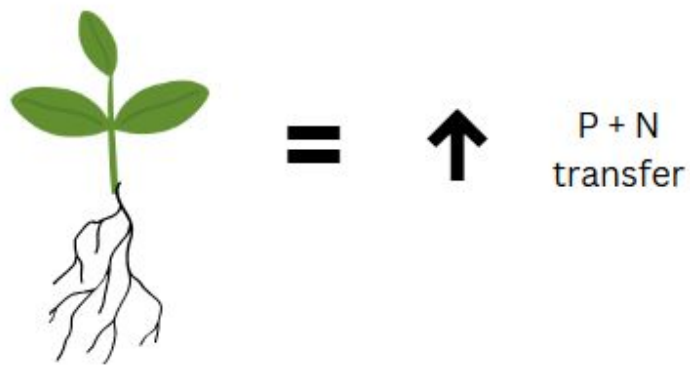
- Mycology is an understudied field do to difficulty growing fungi in labs.
- It is important to understand all effects of global warming in order to put change into effect
 - especially since mycorrhizal networks have so much potential within our ecosystem
- This will help prove/disprove the hypothesis of the relationship carbon has within mycorrhizal networks

- Specific Aim 1: determining the existence of mycorrhizal networks.
- Specific Aim 2: Proving that Carbon is the driving force in the symbiotic relationship between the mycorrhizal fungi and plants.
- Specific Aim 3: Showing how the change in CO₂ has affected mycorrhizal networks and predicting rates of transfer in the future.

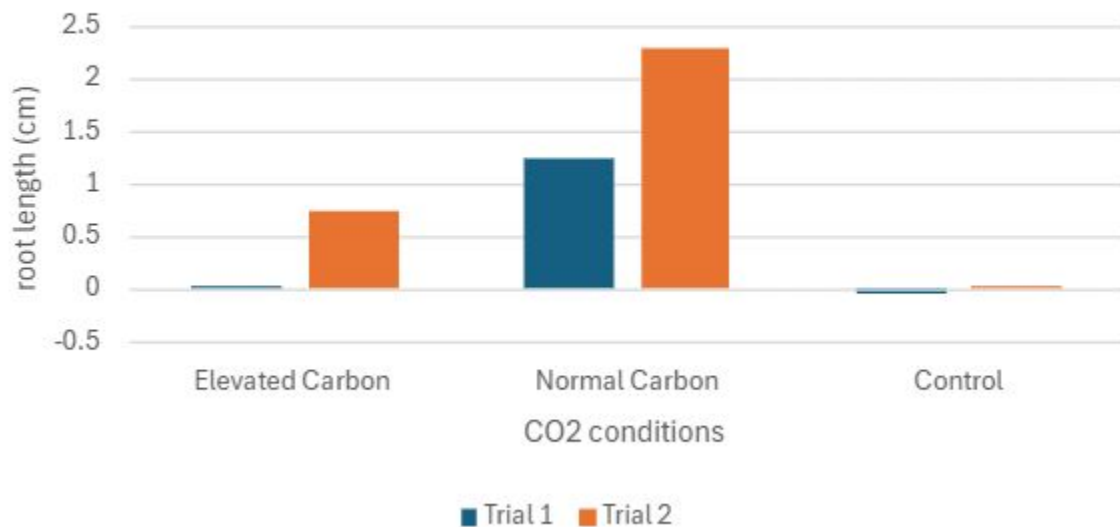
↑ CO₂



↓ CO₂



Change in average root length (cm) for different CO2 exposures



- As CO₂ increased, root length decreased
 - CO₂ has a negative effect on the rate of transfer in mycorrhizal fungi
- suggests that Carbon has a negative relationship with mycorrhizal networks

- Future work
 - Identifying how specific stimuli react to changes in carbon dioxide
 - Can DNA transfer
 - use to help protect plants
 - Negative effects of mycorrhizal networks
 - Seeing how Carbon intake varies with mycorrhizal plants
 - effects of other global warming effects

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