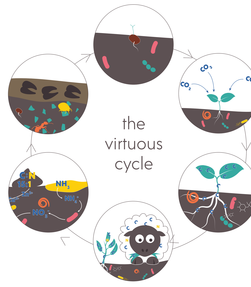
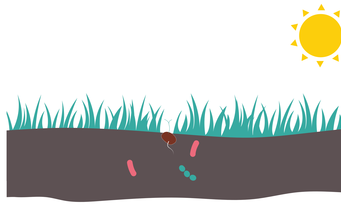
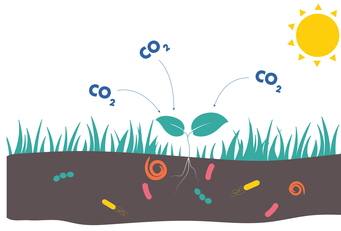
goldilocks grazing



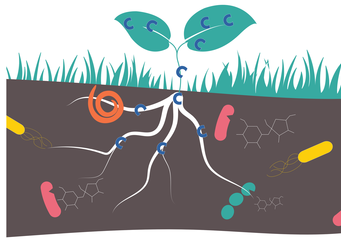
grasslands and herbivores have evolved together for 10's of millions of years. prescribed grazing mimics these natural grazing systems, managing vegetation for specific outcomes.



when a seed is planted, it is already packed full of the carbohydrates and other nutrients needed for its initial growth.



as shoots grow, they act like solar panels, fueling plants to take CO_2 from the atmosphere and convert it into the building blocks of life (carbohydrates, proteins, fats, etc).



meanwhile, 30-60% of this carbon is being pumped underground as sugars, amino acids, and more; feeding resident microbes and encouraging nutrient cycling.

aboveground, animals nibble on plants. in response, plants shed the ends of their roots and pump more carbon underground, in search of nutrients for regrowth. this herbivory has been shown to increase microbial biomass.

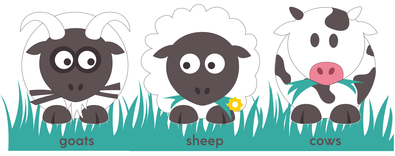
urine and feces that grazers leave behind provides nutrient-rich food for microbes, enhancing nutrient cycling/availability. applications of these inputs have been found to increase soil organic matter.

trampling from animal hooves helps to break up the soil (increasing infiltration); break down vegetation (promoting decomposition); and bury seeds, (encouraging germination).

prescribed grazing alters the animal selection, timing and intensity of grazing to drive plant community composition and/or productivity.

1. animal selection:

different animals have different preferences as to what they eat and how they eat it. multi-species grazing uses these differences to encourage uniform consumption in diverse fields.



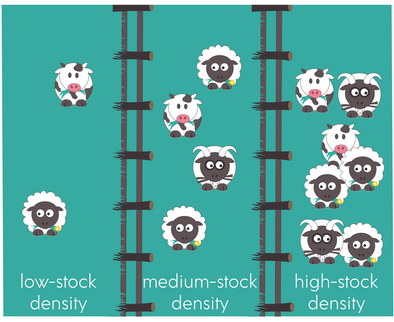
2. time:

plan your grazing around plant life cycles. leave sufficient time between grazing events that grass can regrow and parasites will die out, without letting weeds go to seed.

early season mid-season late season

3. intensity:

too short/too few and they just come back for more of their favorites. too long/too many and they may graze it down too far. rule of thumb: don't let them graze down more than 60% of plants.



	undergrazed: too little	prescribed graze: just right	overgrazed: too much
plant diversity	↑ "weeds" dominate	↑ shift to perennials	↓ shift to annuals
photo-synthesis			
inputs			
microbial biomass			
SOM	equilibrium	potential CO_2 sink	net CO_2 source
erosion risk			

a single dung pat contains dozens of species of insects - 1000s of individuals.