Multi-paddock adaptive management grazing was found to support superior vegetation biomass and composure as well as higher soil quality and soil carbon levels.

The results of a study conducted in a north Texas tall grass prairie suggest that multi-paddock adaptive management grazing yields better ecological and climate outcomes than other management alternatives. Multi-paddock adaptive grazing (henceforth: multi-paddock) consists of rotating livestock at higher densities for shorter periods of time while adapting rotational cycles to climatic conditions. This technique is based on the theory of mimicking the natural grazing patterns of herds of large, migratory herbivores which used to inhabit the great North American plains and would group together and move quickly in response to predation pressures. This is in contrast to conventional grazing management styles, where livestock are kept continuously on a few very large paddocks at lighter stocking densities, where they tend to repeatedly overgraze certain plants, often leading to lower nutritional outcomes for the cattle. The study compared multi-paddock to light continuous and heavy continuous grazing sites, as well as control sites that were ungrazed. Each of these sites had been under their respective management regimes (eg. multi-paddock, heavy continuous) for at least nine years prior to the study. The results of the study found that the multi-paddock sites had superior vegetation biomass and composure and also had properties of higher soil quality such as higher soil organic matter, cation exchange capacity, fungal/bacterial ratio and aggregate stability, indicating higher water- and nutrient-holding capacities.

Case effectiveness on Climate change

Mitigation: Not reported
While not explicitly reported in the study, the higher soil carbon content reportedly found in the multi-paddock sites indicate a potential for multi-paddock adaptive management to increase the soil carbon sequestration potential of areas used for grazing livestock. In this study, MP sites were found to have soil organic matter contents of 5.72% and 4.00% in the top 0-15cm and 15-30cm respectively, compared to 3.76% and 2.45% for HC sites. Indeed, many other studies suggest that multi-paddock adaptive management, also called rotational grazing, has a high climate change mitigation potential through increasing soil carbon sequestration rates, although more research must be done on this subject.

Adaptation: Positive
Multi-paddock adaptive management grazing was shown to yield better soil quality outcomes, reportedly mitigating issues of soil erosion and soil

Exclusively targets nature
Conducted at landscape scale

Intervention type
Management

Ecosystem type
Temperate grasslands

Climate change impacts addressed
Loss of food production
Reduced water availability
Soil erosion
Reduced soil quality

Instigators
National government/agency
Research institutions

Societal challenges
Biodiversity conservation
Climate change adaptation

Literature info
Peer reviewed
Case methodology reported

External case resources
Read resource 1
degradation, as well as increasing water-holding capacity and thus resilience to periods of water scarcity. The study also reported higher vegetation biomass, which translates into higher agricultural productivity.

Ecosystem health

**Ecological effect:** Not reported
The authors of the study describe the intervention as being effective in maintaining and restoring ecosystem health.

Socioeconomics

We are currently working on adding the case effectiveness on socioeconomics.