

Regenerative Agriculture

Diverse Cover Crops

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Benefits of Regenerative Agriculture

- The land is more resilient to droughts and floods
- Reduces greenhouse gas emissions
- Increases soil organic matter
- Soil and plants are healthier
- Sequesters carbon from the air into the soil



Diverse Cover Crops

Cover cropping is when farmers plant crops in their fields to protect the soil after harvesting their cash crops. The plant the cover crops in the fall after harvesting and then get rid of the cover crop in the spring. Researchers have been looking at the benefits of using a variety of up to fifteen cover crops in the same field.



Diverse crops are more productive

More diverse cover crop mixtures are better for biomass productivity. Because some crops may be unproductive one year, it is best to have a variety so that at least some of them will be successful.



Diverse crops are more beneficial

Because diverse cover crops tend to be more successful, they are also correlated with an increase in weed suppression, soil nutrient retention, and soil microbial biomass.

Reduced Carbon Emissions

20 Million Acres of Cover Crops

can sequester

60 Million tons of Carbon Per Year

equivalent to emissions from

12.8 Million Cars

Planting cover crops greatly reduces a farms carbon footprint because as the plants grow they sequester carbon from the air back into the soil. This improves soil health and reduces the amount of greenhouse gasses in the atmosphere.

Benefits of Diverse Cover Crops

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Agricultural Benefits

- erosion control
- compaction remediation
- increased water infiltration and storage
- improved soil biodiversity
- increased organic matter and nitrogen fixation
- improved nutrient
- recycling and retention of macro and micro nutrients.

Environmental Benefits

- reduced nutrient leaching
- reduced sediment and phosphorus deposition
- reduced runoff
- increased carbon sequestration
- improved beneficial insect habitats
- pollinator and wildlife enhancement

Impact on Climate Change

As seen in the above slide, diversifying cover crops has a number of enviornmental benefits that can help to reverse climate change.

Healthier soil

Cover crops reduce nutrient leaching and increase carbon sequestration meaning the soil is healthier and there is less carbon in the atmosphere.



Reduced erosion and runoff

Cover crops significantly decrease the amount of erosion that occurs from rain, because of this there is also less runoff of nitrogen fertilizers into waterways.



Improved plant and animal habitats

Cover crops provide better habitats for wildlife and insects, specifically pollinators which are essential to all ecosystems.



Sources

<https://cropwatch.unl.edu/2016/cover-crop-mixture-diversity-and-function>

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