

# Biodiversity Factsheet

## Understanding Biodiversity: Crucial for Long Term Health of Food System

Biodiversity on farms encompasses the variety of plant and animal species coexisting within an agricultural ecosystem. Farm biodiversity plays a critical role in agriculture by supporting the presence of pollinators and natural pest predators. Maintaining diverse plant species on farms ensures successful crop pollination and reduces the reliance on synthetic pesticides, promoting sustainable pest management practices. Additionally, the interface between farms and livestock contributes to farm biodiversity, as it creates a synergistic relationship that benefits both the animals and the environment. By integrating livestock into farming systems, farmers can manage vegetation, enhance soil health, and provide additional habitat for wildlife. Overall, farm biodiversity enhances ecological balance, resilience, and productivity in agricultural systems, promoting sustainable practices and safeguarding the long-term health of our food systems.

Cotton farming, frequently conducted as a monoculture with intensive tilling, high chemical inputs, and uniform genetics, contributes to biodiversity loss by causing soil degradation, compaction, salinization, and soil-borne diseases, thereby diminishing soil fertility and ecosystem health.

**Existing Agriculture is Detrimental for Biodiversity:** Conventional agriculture systems, as they currently exist, pose significant threats to biodiversity. These systems often prioritize high-yield monocultures, heavy pesticide and fertilizer use, and extensive land clearing, leading to fragmentation and destruction of natural habitats, displacing countless species and disrupting their life cycles. Monocultures, where a single crop dominates large areas of land, result in the loss of natural habitat for many plant and animal species --including pollinators, and disrupts the intricate web of interactions within ecosystems. Moreover, the extensive use of chemical pesticides and fertilizers in conventional agriculture harms beneficial insects, birds, and other wildlife, as well as aquatic species, as it runs off to water bodies, contributing to population declines and disrupting ecological balance.

## Understanding Regenerative Agriculture Supporting Biodiversity and Ecosystem Service

Regenerative agriculture offers numerous benefits for biodiversity, promoting the restoration and enhancement of ecosystems within agricultural landscapes. Several practices associated with regenerative agriculture contribute significantly to biodiversity conservation. By implementing these practices and others associated with regenerative agriculture, farmers can create and enhance habitats, conserve wildlife, improve soil health, and protect water resources.

**Incorporating Agroforestry Elements:** Incorporating trees and woody perennial plants as well as bushy shrubs along the field margins , within agricultural systems creates diverse habitats, providing nesting sites, food sources, and shelter for pollinators and natural predators- birds, insects, and small mammals, fostering biodiversity and ecological balance.

**Cover cropping and crop rotation:** Utilizing cover crops and implementing crop rotation practices improves soil health, enhances nutrient cycling, and reduces pest and disease pressures. Cover crops, such as legumes, grasses, or mixtures, provide habitat for beneficial insects, including pollinators and natural pest predators. Crop rotation breaks pest and disease cycles, reducing the need for chemical inputs and promoting a more balanced ecosystem.

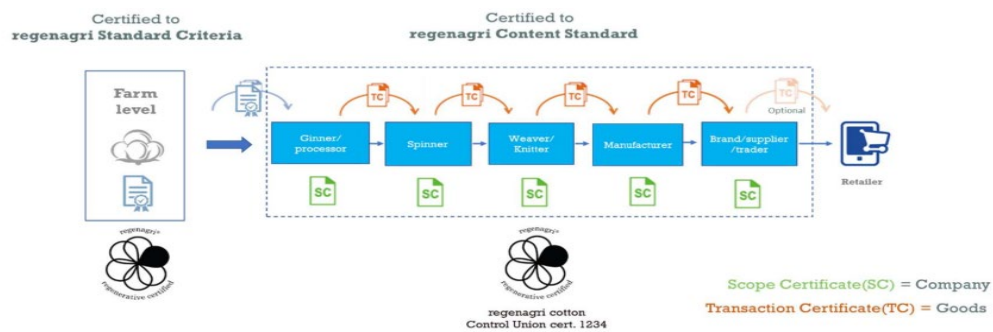
**Conservation tillage:** Minimizing soil disturbance through reduced or no-till practices helps preserve soil structure and beneficial organisms. It promotes the growth of soil microorganisms and earthworms, enhancing nutrient availability and soil fertility. This, in turn, supports a healthy soil food web and contributes to overall ecosystem resilience.

**Wetland restoration:** Restoring and conserving wetlands within or near agricultural landscapes provides crucial habitat for water-dependent species. Wetlands act as biodiversity hotspots, supporting diverse plant and animal communities, including migratory birds, amphibians, and aquatic organisms. Their presence also helps with water filtration and retention, improving water quality and contributing to ecosystem health.

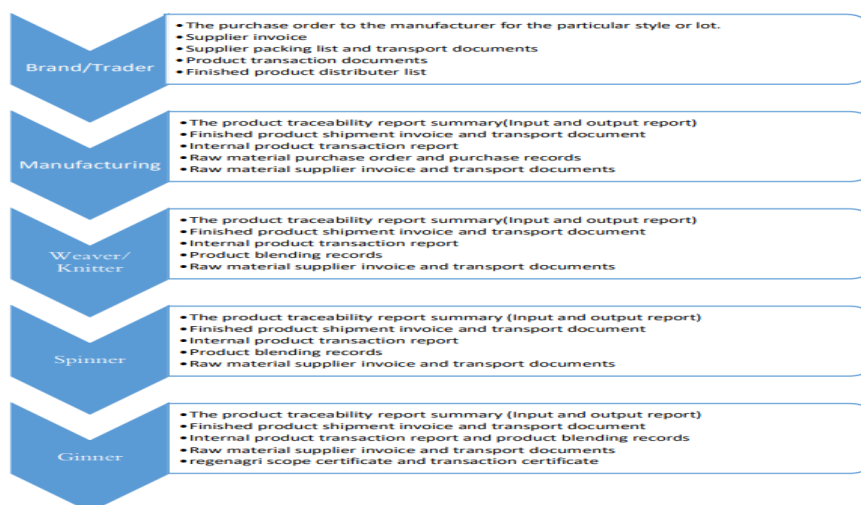
**Integrated pest management (IPM):** IPM practices focus on minimizing the use of synthetic pesticides and incorporating a range of pest management strategies. By utilizing techniques such as biological control, habitat manipulation, and monitoring, IPM helps maintain a balance between pests and their natural predators, reducing the negative impacts on biodiversity and promoting a more ecologically sound approach to pest control.

**RegenAgri Certification:** RegenAgri certification standard works around the key principles and practices of regenerative agriculture, including soil health improvement. It requires that farmers implement practices such as cover cropping, crop rotation, reduced tillage, and the use of compost and other organic amendments to increase soil organic matter and improve soil structure. The standard also requires that farmers monitor and assess soil health indicators such as soil organic matter, soil fertility, and water holding capacity to ensure that their practices are having a positive impact on soil health by reducing soil disturbance, increasing organic matter, and using soil biology-friendly practices.

The regenagri standard criteria are monitored at the farm level to issue the certificate which can be them complimented with traceability verification under regenagri content standard at goods level (transaction certificate) and at company level (scope certificate)



### Certification Process



### Traceability Flow Process

This factsheet has been created in respect of a joint program on regenerative cotton initiated by CRB and Solidaridad. This factsheet is aimed to communicate science behind regenerative agriculture, as well as approach under certification in reference to 'regenagri cotton' program.