

Focus on biodiversity

A series of articles addressing the importance of biodiversity in agriculture. Farming for a better future.



A farmer's perspective

Farmers interview

To conclude our mini-series on agriculture and biodiversity, we interviewed farmers Vera and Arli Zanatta. The Zanatta's are from Mato Grosso, Brazil, which is one of the most biodiverse areas on the planet. They farm soybeans, corn, and chia seeds. We learned about their perspective about biodiversity and what that means with respect to agriculture.

What does biodiversity mean to you and your farm?

"Biodiversity plays a vital role in the national and global economy. We understand that biodiversity encompasses all species of living beings, including human beings, and the relationship with the environment itself. The production of food day by day becomes more indispensable for our company, our economy, our sustainability, and even more important, for humans worldwide.

We understand that to have a good relationship between the environment, human beings, and agriculture, it is necessary to preserve biodiversity. Furthermore, we know we need to conserve this good relationship because this increases our productivity. It is crucial to have a respectful and thoughtful relationship with the environment because this relationship reflects directly on us. Everything we offer in our company is thanks to the environment, and it is the basis for our production. If we treat well the ecosystem in which we live automatically, we also have rewards. It is not only having a pleasant environment to live in, which is very important, but also having a right environment to produce and achieve good economic results. In our case, we focus mainly on the relationship with water and soil."

How often do you come across biodiversity-related issues? They may come from the government, customers, or friends.

"While there can be challenges, we have some government institutions we work with on a regular basis. One example is the Institute for Agriculture and Livestock Defense of Mato Grosso, which visit us periodically, to make inspections on our facilities and practices.

They focus, for example, on the packages of chemical products that we use, check that they are triple rinse, punctured, and well stored. This storage must be closed with a screen, floor, and sidewalk to prevent the entrance of birds and other animals, so there is no contamination and reduces the risk of affecting biodiversity. Once the planting is over, we make a schedule for disposing of packages at a collection point. For this practice, it is essential to take note of the herbicides or products we use because the quantity we buy must match precisely with the number of packages we deliver.



We didn't have these practices years ago and initially thought this was tedious. But now, this is wonderful because we return this material, prevent contamination, and improve our practices."

What do you think are the main challenges faced by farmers in your community concerning biodiversity?

"A challenge that we face here in Mato Grosso is the climate. Here we have two seasons, the rainy season goes from September until May, and then a long dry period from May until September. In the dry season, the humidity of the air is around 10 to 20%. We can feel it on our skin and our breathing when sleeping. This is related to biodiversity because the risk of fire is very high. Unfortunately, most of the time, they happen accidentally due to a cigarette butt or due to a spark from the car exhaust. Fires are terrible because they proliferate.

For instance, one of the major damages of fires is when the straw catches fire. For us, straw serves as a natural fertilizer, they are like savings that we have accumulated. Using straw as a fertilizer increases our productivity thanks to good microorganisms, and we don't have to buy only chemical fertilizers. Our economy, health, and productivity are affected when we lose this due to fires. When fires occur, all the neighbors mobilize even when they are not directly at risk, owing to a shared concern.

We try that the fire does not spread, also because close to us there is a reserve and a stream. If the fire gets there, the fire could even reach the forest, that would be very bad because it's tough to control the fire after it gets to the forest. Fires happen, but it is in our interest to preserve and take care of our soil, resources, and the forest. It is vital because that heritage is not ours, but we depend on it. We must work together, conscious that is the best way to produce."



Do you carry out any activities to protect and enhance biodiversity on your farm? If yes, which ones?

"One action I would say is fire prevention and containment. Another action could be no-till or the old strip-till, which helps strengthen the soil structure against compaction, reduces erosion, and increases soil organic matter. This goes with organized and adequate fertilization.

We also did crop rotation; this greatly benefited the environment and brought beneficial insects. We have planted chia seeds for 23 years, which is part of our crop rotation process.

We also inform our workers to be careful with the tractors while driving around them, to be cautious with the plants, and not to pollute or waste water."

Have you considered looking at the protection of biodiversity on your farm from the perspective of farm productivity or cost savings?

"Yes, as a company, we think about productivity or cost savings, and our relationship with nature affects our company. For example, there are laws about sanitary control, which are essential for the management of bugs, insects, and diseases. One case is the state law about soybean production that limit where and when we can plant. The main objective of this law is to reduce the proliferation of soybean diseases and biological risks. This is done by prohibiting soybeans from being harvested in places with diseases and limiting their cultivation in the same place for long periods of time (monoculture), which increases the risk of generating and spreading diseases.

The reduction of soybean diseases, benefits the environment considering that the application of herbicides and fungicides decreases, and it benefit us economically because we don't have to buy these expensive products.

Another thing can be the delivery of our inputs in a package of 1000 kg; previously, all our inputs come in packaging from 60- 50 kg. This directly affects our waste management. Five years ago, that packaging was burned on the farms, which meant more work and contamination, but today these packages go back to suppliers or waste management companies. This is good for the industry because the materials are reused and to our farm because we no longer burn this waste, which was bad for our health as they were plastics contaminated with chemicals."

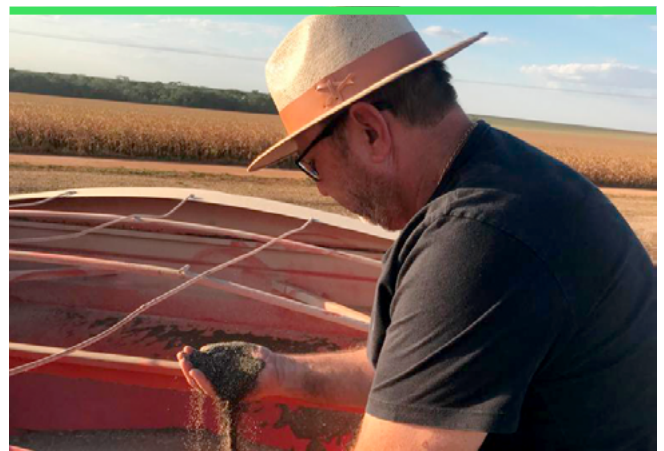
What kind of resources would you need to help you take advantage of the benefits of biodiversity?

We believe innovation and technology are the central components in the process of maximizing the benefits of biodiversity on our farm. We would like to see more investment in research and development, so that we can increase production in the areas that we already have, instead of increasing the areas under production because of growing demand. In Brazil, we don't have snow like in the Northern Hemisphere, so we can produce food all year round. More investment in technology like precision agriculture, machinery like robotics, and modern seeds with resiliency to changing conditions can help us produce in greater harmony with nature and its biodiversity while helping us increase the profitability of our farm.

Series on biodiversity

This article is part of a series on biodiversity that addresses the following topics:

- A general introduction to biodiversity for productive, sustainable, resilient farming
- Biodiversity compliance and productive farming go hand-in-hand
- How farmers can improve the biodiversity in their production systems
- Measuring biodiversity in production systems



We do our best to coexist with nature; our greatest asset is the soil and the environment we live in. We are interested in preserving and taking care of it because this is what we will leave to our children.