



Interview on Regenerative Agriculture

TechSci Research Analysts in
Conversation with

Scott Gillespie

(Regenerative Agriculture Agronomist:
Plants Dig Soil Consulting Ltd.)





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How is your work related to Regenerative Agriculture industry?

It is the focus of my consulting business. I've been interested in bringing organic and conventional methods together for twenty years now. My Master's degree was on this topic, even though at the time regenerative agriculture was not a well-known term.

Being an agronomist how do you foresee the future of Regenerative Agriculture industry?

I see it as the future of agronomy. We are in the very early stages of regenerative agriculture and there are a lot of growing pains. It is very similar in concept to the idea that we could plant crops without tillage in 1980's and 1990's. No-till seemed impossible since tillage has been a part of agriculture for as long as it existed. I saw my dad develop the techniques as I grew up on a farm in that time period. Over the next few decades, I see regenerative agriculture following that path.

What are the key challenges associated with the implementation of regenerative agriculture?

The key challenge is a lack of definition. I define it as a system that produces an economically viable crop for a farmer while ensuring that the land will be maintained or in better shape for the next generation. The second key challenge is to know what to measure. Economic viability is fairly easy to measure and can be done today. Learning what indicates a healthy soil is still being developed. There are many promising measures but until they are tested over large geographies and time scales it is hard to know what the best ones are.

In the name of achieving sustainability goals many companies are entering into Regenerative Agriculture industry. Is this really helping the world or is it just helping the companies in building their reputation. Please comment.

I believe it is both. Yes, large companies are doing this because they see it as building their brand. Shareholders and consumers are driving the change and they are reacting. However, they are realizing that to have a reliable supply of raw products they need the farmers to be economically viable and they need to be sure they are doing things that take care of the land. When a company is working with farmers to make locally adapted systems work then it will be positive development for the



world. However, when a company creates a checklist and the farmers work to get as many checkmarks as possible, it risks being a case of greenwashing.

Can you comment on the potential of Regenerative Agriculture in a country like Canada which experiences extreme winters and very limited rainfall.

We must temper our expectations and look to the local conditions. In the Prairies the ground is frozen for 5 months of the year and so no matter how hard we try a cover crop will have limited effect. It is not impossible; it just will not have as big of benefits as seen in other areas. Rainfall limits us to one crop a year and in some years, there is not enough moisture to even grow a crop. A creative solution is to use fallow with water saving cover crops in one year and a cash crop the next. In the eastern part of the country where the winters are milder and excess rainfall is more common than limited rainfall there is more potential for cover crops. However, the winters are still cold so the effect will never be as great as more tropical areas.

Can you comment on few countries who are practicing regenerative agriculture and how is it helping them.

Where I've seen the greatest impact is in the east half of the United States where water is not normally limiting crop growth. Excess water is more normally the problem. In many areas weed control was the biggest challenge due to herbicide resistance. Cover crops don't replace herbicides, but they can be a tool that helps the farmers use herbicides more judiciously. They also can pump water out of the soil and allow more timely field operations. In Australia they don't have the harsh winters like we do in Canada, but they have long, arid times. Multi paddock grazing which allows greater recovery time allows the fields to soak in torrential rains when they do come.

Which is the most commonly used regenerative agriculture practices and why? (Holistic Planned Grazing, Agroforestry, Pasture Cropping, Silvopasture, Agroecology, Aquaculture, Others)

Planned grazing and cover cropping are the most common practices that I come across. This is mainly a factor of the kind of land I work on. My area is naturally a Prairie grassland, and we still have remnants of them left. Grazing animals is often the best use of that land. Where the land is flatter and more fertile crop production is more common. Cover crops fit into this system the best. Since trees only grow naturally near rivers here agroforestry and silvopasture are not very appropriate. Those practices are best used in areas where there are locally adapted trees that can integrate into the systems.

Can regenerative agriculture replace conventional agriculture practices?

Yes, it can. Unlike organic agriculture, regenerative agriculture does not restrict certain tools. It only asks that you try to use the more appropriate one that does the job and is good for the soil in the long term. Conventional agriculture has been successful. However, simply relying on chemical pesticides and fertilizers has had impacts on the environment, food safety, and worker health. The tools are not working as well as they once did, in the same way that drugs lose their effectiveness on human pathogens. It will take a generation to change the way we farm. And I know we can do it.



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