



Regenerative agriculture doesn't have to be contentious: Take 2

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Canadian agronomist Shane Thomas revisits an earlier article after agribusiness giant Bayer Crop Science announces ambitious plans to lead the way in regenerative agriculture. Is this a smart move by Bayer, he asks: will it help to challenge binary perceptions of what regen ag is, or isn't, and more importantly, will it drive increased uptake of practices which improve soil health, limit environmental impact, and deliver better returns to farmers?

In a previous [article](#) I discussed the five component principles of regenerative agriculture and proposed a simple scorecard system to ask the question: when does a 'conventional' farmer become 'regenerative'? From a farming perspective, my conclusion was that what matters most should not be to appease a specific definition, but rather to focus on outcomes - optimising profitability and productivity while having the least environmental impact. Now Bayer Crop Science has entered the regen ag scene with a bang, it's time to revisit the issue.

Last month, Bayer Crop Science held an Innovation Summit in New York City at which their leadership team went through not only their pipeline of products for the next 10+ years, but unveiled their new positioning around this pipeline, emphasising how these innovations can enable a scale-up of regenerative agriculture.

As a result, there has been a further increase in commentary around regenerative ag and whether this is smart of Bayer, possible by Bayer etc., along with ongoing discourse on what regenerative ag actually is. I think it's useful to unpack some of this additional commentary.

Regenerative Ag as a catch-all

Regenerative ag isn't a "thing". It's an umbrella term for the integrated use of farming practices that help improve soil health, limit environmental impact, deliver better yields to farmers and increase grain or fruiting quality. The practices deliver these outcomes by increasing water use efficiency, nutrient use efficiency, increasing soil microbial activity, decreasing reliance on added fertiliser, and more.

The regenerative ag term gets thrown around without actually understanding what makes up the term and the constant emphasis is that we can't define regenerative ag. But I think that is irrelevant.

The reason for my original title around not being "contentious" was because of the pushback I would hear from "conventional" ag minded agribusiness professionals and farmers over whether regenerative was viable.

Over the past few weeks, what has seemed more apparent is the contentiousness among "regenerative" ag individuals who do not recognise the value of Bayer or any traditional inputs company associating with regenerative ag.

This seems short-sighted and idealistic on the part of pro-regenerative agriculture individuals. If individuals are truly passionate about seeing more of these practices used on all acres consistent with regenerative ag principles, then leading input suppliers and technology companies advocating for it is fundamentally a good thing.

Bayer touches 340 million acres globally via seed alone (additionally, they have over 200 million registered acres within the FieldView digital platform).

If someone truly cares about seeing regenerative ag principles grow in utilisation, then companies like Bayer offer a compelling platform to propel them from. If significant portions of those 340 million acres began implementing just reduced tillage, cover cropping and implemented an additional crop into rotation in the next 5 years, is that not a huge win for the advocates of regenerative ag and those that want to see the beneficial outcomes from those practices?

Let's be clear, for the average farmer to implement every principle within regenerative seamlessly and effectively in a short period of time is a pipedream. It's intimidating and will keep many from even starting. In the next decade, and probably beyond, there is not going to be a significant (eg >10%) proportion of farms implementing every principle effectively— the animal integration principle is just one component that challenges this.

There isn't a deep enough understanding among most farmers nor the support system available today to implement. I think critically too, there isn't the discipline to do so. This isn't knocking farmers, it's a people thing. Change is hard, systems evolution is even harder and doing hard things doesn't just take incentives, it takes discipline.

Attempting to overhaul a farming system doesn't happen in one year or three years; it is a continuous evolution over the course of 5, 7, 20 years and beyond. Not every farmer will have the fortitude to move 100% in this direction, but if significant (eg: 15%) portions of farmers move even a fraction in that direction thanks to buy-in from the likes of Bayer, that can have a huge impact.

Some basic maths on just no-tillage alone illustrates that one pass of [conventional tillage emits 34kg/ha](#) of carbon equivalent or 13kg/ac (from fuel) and then eliminating a tillage event itself, depending on the land, can [increase sequestration](#) by 0.10-0.18 MT/ac. On the low end, that means 220kg/ac. Combine those together and we get an acre improvement of 234kg/ac from no-tillage.

If 25% of Bayer's seed acres reduced their tillage that would mean 85 million acres would be influenced. That's the equivalent of [removing](#) more than 4.3 million cars from the road each year. Not to mention the increase in microbial activity that could increase

nutrient availability reducing some fertilisation needs and the potential increased nutrient density of those grains of those crops while decreasing soil erosion.

Can more be done? Sure. I'm confident Bayer has aspirations beyond just reducing tillage too.

But I find it difficult to see where an increased adoption of basic practices associated with regenerative ag is fundamentally bad, as has been painted by some commentary I have read and emails I have received. That's the power of a Bayer-like platform— one small initiative surrounding tillage from them moving the needle at scale can have a significant impact.

Can Bayer (and other input companies) do it?

A view I take is that it's good to be skeptical, but it's debilitating to be closed-minded.

Individuals see a conflict of interest between Bayer's profit interests and regenerative ag practices, and rightfully so to a degree, but that's why Bayer announced the €100 million upside opportunity they see in the adjacent markets— they want to target other revenue opportunities surrounding regenerative practices and the product needs that come from it.

Take their seed business. I fundamentally believe genetic modification and gene editing are a core part of enabling more regenerative practices. Using this science and expertise to deliver tools to help farmers better reduce pesticide use through traits and increase cover crop usage are two basic examples.

FieldView is a digital tool that can inform decisions through modelling which can not only minimise poorly timed or unnecessary pesticide applications but can ensure that a higher level of output (yield) is delivered when products do get used on a per gram of active ingredient basis.

Final thoughts

The complexity behind this conversation is immense, and the fundamental beliefs of all different sides can cause issues in alignment. For example, my view that gene modification is an important part of implementing regenerative agriculture practices would meet swift resistance from many.

This to me is the biggest riff: It shouldn't be about some binary "they are regenerative" or "they aren't". The important part is not whether a farm is regenerative or not, it's whether they are implementing practices that can benefit their operations' ability to produce and strengthen profitability in the short and long term with minimal environmental externalities.

The principles and practices making up regenerative ag are beneficial— that isn't really arguable for anyone that reads the scientific literature. And if Bayer wants to lean into those practices, associating them with their core products and using it as a foundation for their future revenue streams, barring a conspiracy theory view that Bayer wants to use it as a trojan horse to end regenerative ag (I actually read this view last week), I think it's difficult to argue that Bayer moving this direction is bad. Given the scale and influence they have, the impact they can have with only minor uptake from their vast acreage is immense.

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