



# **Improving Soil Health to Increase Farm Profitability**

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It is now a given that cow comfort is one of the most important elements to consider in improving the profitability of dairy farms.



Photo credit: Denis Ruel

Some say that soil health is the animal comfort of today. The importance of soil health is becoming well known. It has long been known to be better for the environment, but there is a growing understanding of its positive impact on farm profitability in the short, medium, and long term.

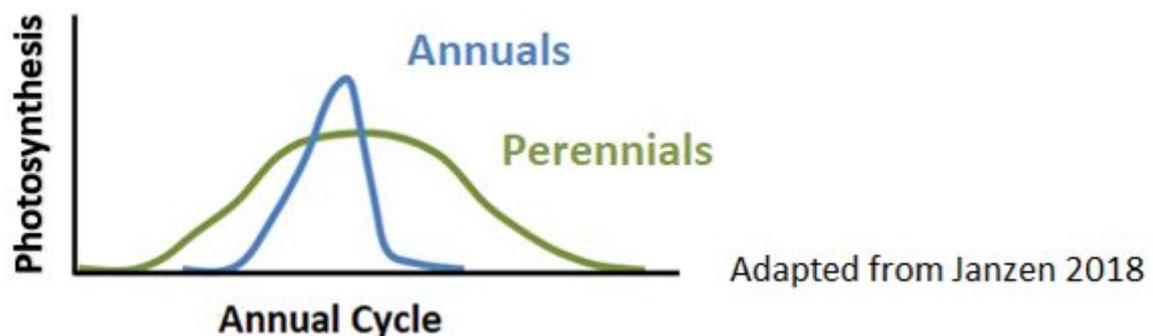
## What is Soil Health?

The health of a soil considers its physical, chemical, and biological quality. From a physical point of view, we are looking for well-structured soil without compaction, and with an adequate surface drainage. On the chemical side, we want a good relative pH and the necessary nutrients for our plants to grow well. For the biological aspect, we aim to have a soil full of life with a good quantity of organic matter.

There are several practices that can improve soil health. Good crop rotation and liming are probably among the most important. We could

compare soils to solar panels: we want to capture as much energy as possible from the plants so that, in return, they give us a product to harvest and/or organic matter to feed the soil. When we see bare soil or empty corn rows, we should see it as an opportunity, and consider the use of a cover crop. In addition to providing organic matter, cover crops also improve soil structure, surface drainage, bearing capacity, and fertility. Of course, we must not forget that perennial forages also have a huge positive impact on soil health, since they are present year-round and capture a maximum of energy from the sun (Figure 1). In return, they not only give us yield, but also an impressive number of roots that feed the soil.

Figure 1. This figure demonstrates the positive effect of perennial plants on the amount of energy absorbed from the sun.



Special thanks to Marie-Noëlle Thivierge for the graph.

The result of a healthy soil? More yields, with less variability, and fewer inputs. It's that simple!!

## It Pays Off to Be Well Surrounded

If you want to improve the health of your soils, don't do it alone! Ask your

agro-environmental advisors to help guide you through the process. They will also be able to help you find the various grants available in your region that can help further invest in your fields. Surrounding yourself with the right people is a worthwhile investment!



By Jean-Philippe Laroche, agr., M. Sc.

Jean-Philippe who grew up on a dairy farm is particularly interested in forage valorization by ruminants. Member of l'Ordre des agronomes, he graduated in agronomy from Laval University in 2018 and also completed a Master's degree in animal sciences, during which he received several distinctions.