



Scientific Report

Produkt/Product:

penergetic p
Art. Nr. 4000
Penergetic b
Art. Nr. 3000

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Research and Development
trials Brazil

Why stimulate the soil-plant system for grain production?

Trial on wheat in Brazil.

The answer to this question is simple and straightforward. Soils require active and intense biological cycles. The soil is a living system. But soil life is in a constant state of degeneration in most of the world's agricultural soils.

Many synthetic products such as chemicals for the control of plant diseases and the excessive use of mineral fertilizers result in an imbalance in soil microorganisms and imbalances in plant physiology. But we need to produce food, fiber and energy.

How can we be efficient in producing without damaging the soil?

Once again, the answer is simple and straightforward. We must stimulate the biological cycles of the soil and the soil-plant interaction to obtain optimal productivity results and improve the quality of our soils.

- The results obtained in wheat show us very well the benefits of stimulating the soil system. Wheat is a crop sensitive to soil quality. Balanced soils provide good conditions for the development and productivity of wheat.

Methodology

We carried out an evaluation using two treatments: A) normal farmer management and B) wheat management with the Penergetic technology to stimulate the soil-plant system. Both treatments received the same conditions of water, light, nutrition and disease control. The difference was whether or not to stimulate the soil and plants.

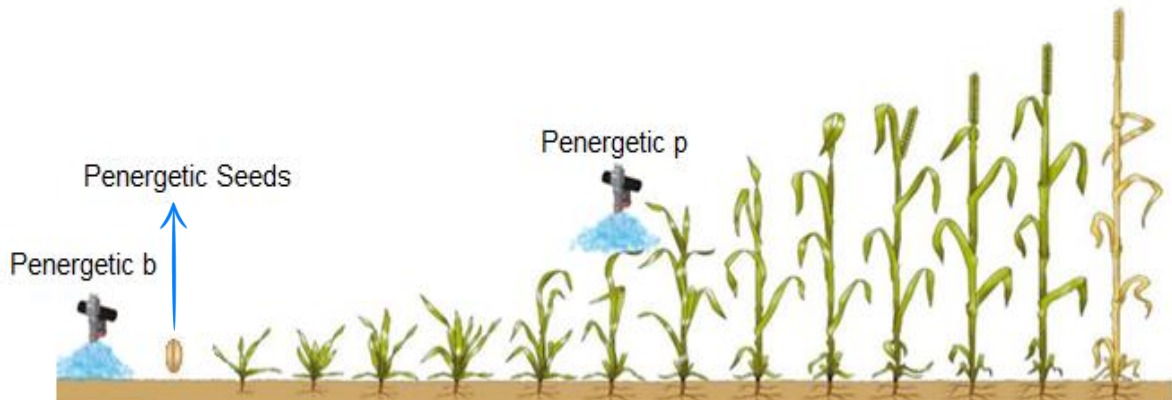


Figure 1: Use of Penergetic technology in wheat crop. Application of 500g penergetic b, penergetic seed dressing, 500g penergetic p.

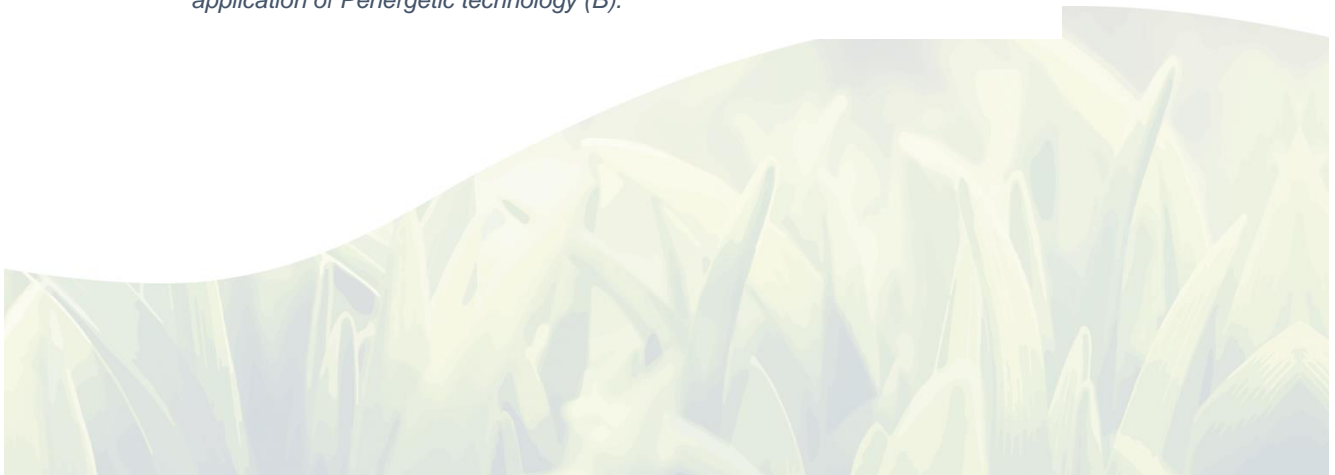
Results

The results were excellent. The initial development of wheat was superior in the area that received penergetic applications. Plants that received the technology showed greater leaf development and greater photosynthetic conversion. The result of the greatest initial development was the quality of the formation of the ear. The definition of wheat potential occurs in a morphological event known as spike primordium (35 days after germination). At this time, the number of grains per ear is defined. All handling after this moment will guarantee the development of each grain. But it will not change the number of grains per ear.





Figure 2: Initial wheat development in control treatment (A) and with the application of Penergetic technology (B).



The development of ears treated with penergetic was significantly superior

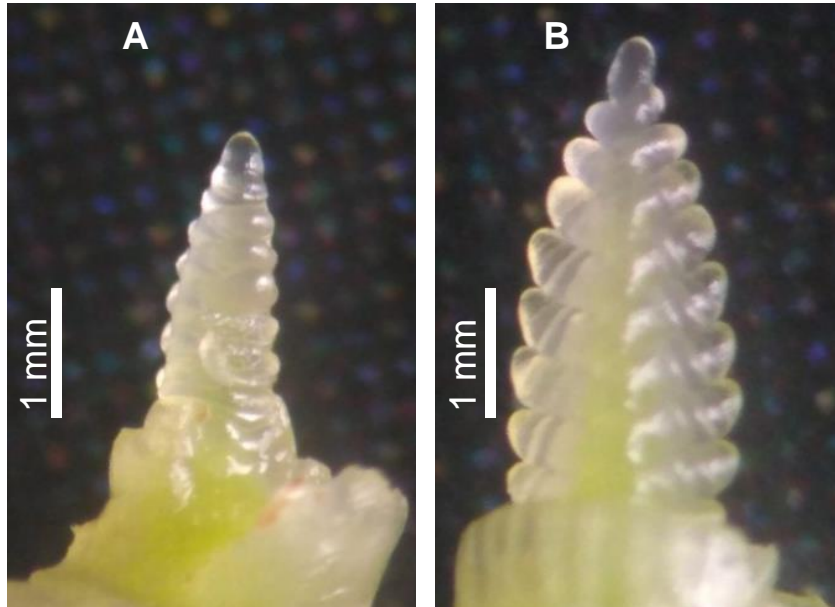


Figure 3: Formation of the spike primordium of wheat in the control treatment (A) and with the application of Penergetic technology (B).

Rainfall was reduced during the crop cycle. This fact slowed down the development of plants. However, the area that received biological stimulus from Penergetic guaranteed good plant development.

The wheat was harvested in the two areas evaluated 120 days after seeding. The development of ears in the area that received Penergetic technology was significantly superior.





Figure 4: Formation of the ear of wheat in the control treatment (A) and with the application of Penergetic technology (B).

Consequently, the penergetic treatment provided higher quality on grain development. The use of technology resulted in a 72% increase in grain volume.

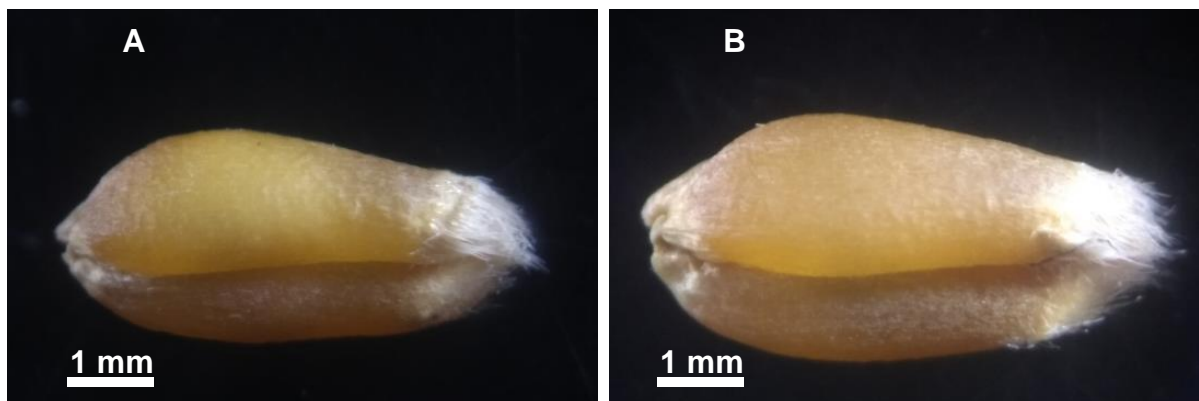


Figure 5: Grain volume of the wheat in the control treatment (A) and with the application of Penergetic technology (B).

If we have grains with greater volume, then we have heavier grains. The great answer to why stimulating the production system is in productive efficiency. It is in the plant quality, grain quality and the farmer profitability.

Grain volume and weight

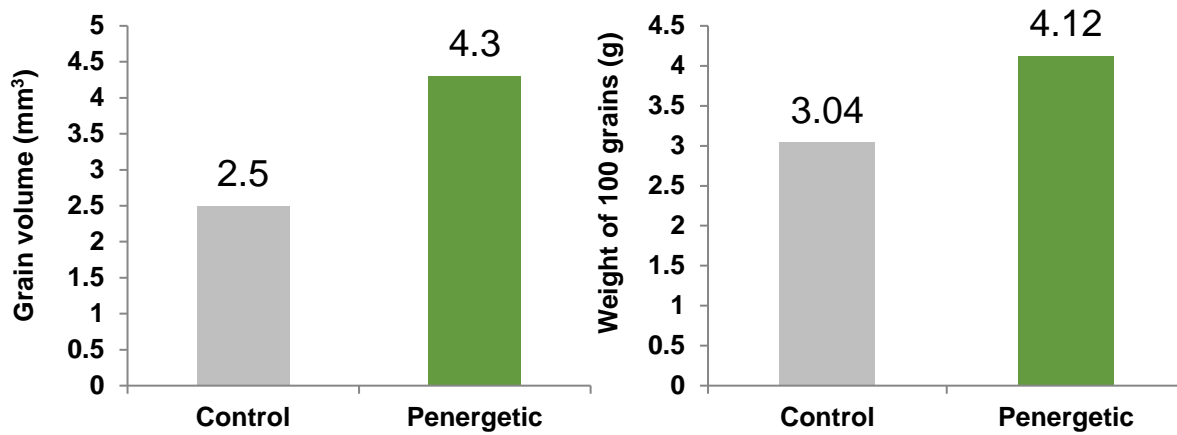


Figure 6: Grain volume and weight of 100 grains in treatment control treatment and with the application of the Penergetic technology.

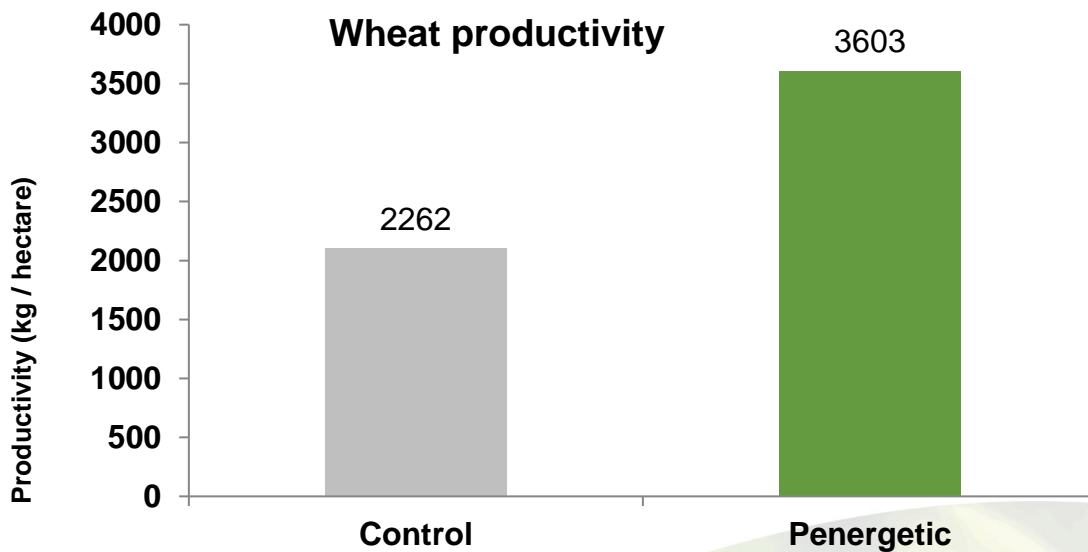
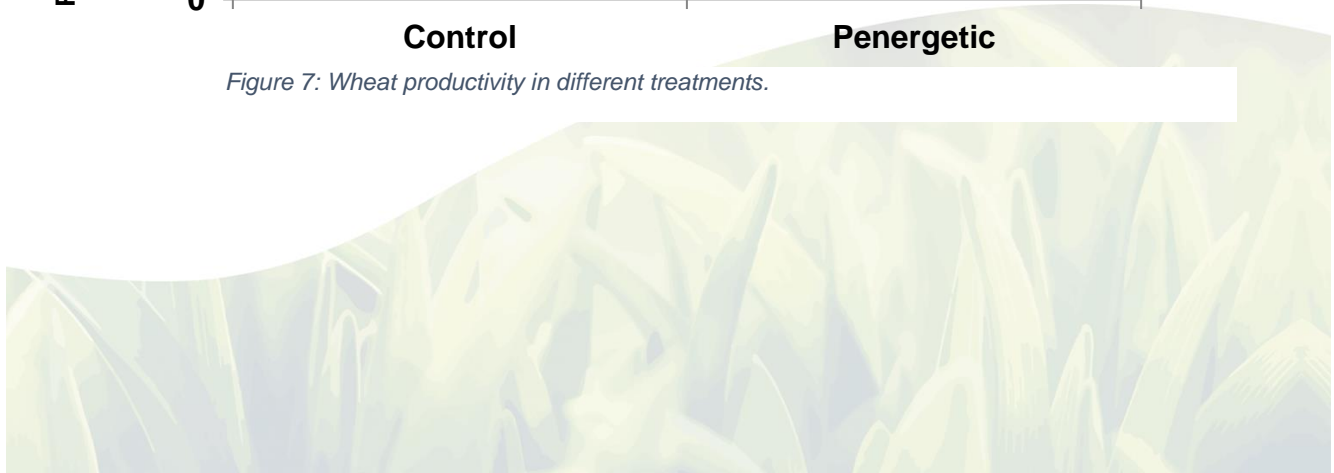


Figure 7: Wheat productivity in different treatments.



Increased wheat productivity by 60%

All measures using penergetic improved the soil-plant system, resulting in increased productivity by 60%. This is one of the great reasons for the farmer to use a technology that guarantees productivity and care for the production system.

The Penergetic technology is much more than just a product, it represents a real alternative for regenerating the agricultural ecosystem, allowing for large-scale sustainable production. Penergetic technology: for water, soil, plants, animals, waste treatment, composting. For future agriculture.

