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Research Paper

A Novel Material to Protect Significant Seeds Germination, Based on the Biology of Human Eye

Arturo Solís Herrera • María del Carmen Arias Esparza • Fabian De la Serna Hernández

Human Photosynthesis™ Research Centre, C. S. Aguascalientes 20000, México.

Correspondent author; E-mail: comagua2000@yahoo.com.

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Abstract. It is a rush that the world's growing population and increasing human welfare will necessitate at least, a 30-70% increase in food production over the next three decades. Furthermore, the huge quantities of food needed must be produced in such a way that protects the environment and is resistant to climate change. If success is to be guaranteed, it will require a complete overhaul of the way food is produced. The future is dark, and global food production must be transformed using new technology. The good news is that a new material developed by the researchers based on the biology of the human eye, has had promising results at the laboratory level.

Keywords: Seeds, germination, eye, oxygen, hydrogen, agrochemicals.

INTRODUCTION

Unfortunately, current methods of production will be insufficient and a radical change is needed. Agrochemicals can no longer be used in the way they are currently applied. New research must accelerate the transition towards a sustainable food system. Extreme weather and geopolitics are the major drivers of increasing 'Food Shocks'.

Food security is a growing trouble. Agriculture is at the center of the food, energy, and water node. It consumes 70% of the earth's fresh water and consumes 30% of the world´s available energy. Farming contributes with a whopping 12% to 14% of total greenhouse gas emissions. Fertilizer runoff has created hypoxic dead zones in several areas of the world. Soil has been badly degraded in many areas, and the problem is getting worse.

Despite this massive misuse of resources, nearly one in eight living around the world are still chronically hungry. But after years of increasing productivity, the impact of the Green Revolution that increase the wheat yield between 1950 and 2004 in 250%, is now waning, just as the demand for food is increasing. Seeds, agrochemicals and irrigation are getting more expensive every day.

Fertilizers are bound to the price of oil, thereby the cost of the synthetic fertilizers is well beyond the reach of many small farmers. Even more, the climate change and poor land management have resulted in drought and growing desertification, rendering irrigation either costly or impossible.

The native plants, survive better in dry areas than high-yield plant varieties. So, small farmers are reverting to hardier, but far less productive, crops. Significant amounts of food are wasted in the U.S. and other developed countries. Food insecurity is almost entirely limited to the developing world.

Environmental problems need urgent attention. Some of these problems are soil erosion from mechanization, water salinization from irrigation, accumulation of DDT in food and water and animal life from pesticide use, and water pollution from chemical fertilizers (Anifowoshe, 1990).

Solutions must be local so the people can buy the food or produce it themselves. Each region has different difficulties, therefore the road to food security is a

formidable challenge, and time is running out.

The uniqueness of life is intimately bound with the uniqueness of Earth (Herrera *et al*., 2022). For instance, the levels of oxygen in the atmosphere, in water, in soil, and inside the living beings. Agricultural soil is losing its ability to produce food in parallel, where the oxygen levels that agricultural soil must contain are also decreasing due to the indiscriminate use of agrochemicals.

Agrochemicals apparently increase crop yields, but significantly disrupt soil biology. There are several parameters that are studied to try to determine the fertility of the arable soil, but from this study point of view the oxygen content is the most relevant.

Inside the human eye, oxygen levels are critical, and certainly very high, because in the tissues they reach constant levels of 94% to 98%, and the pH is always around 7.4. There are several theories that try to explain such characteristics that can be found in the scientific literature.

But during an observational, descriptive study about the three main causes of blindness in humans and their possible relationship with the blood vessels that enter and leave the optic nerve, circumstantially, the answer is found.

This observational study began in 1990 and ended in 2002 and included the digital fundus studies of six thousand patients, and whose archives were dated. The conclusions were surprising as the human retina possesses the amazing ability to take the oxygen and the hydrogen from water, just like plants; and through the same chemical reaction: dissociating the water molecule.

The transformation of light energy into chemical energy through the dissociation of water is a process that was glimpsed in plants more than two centuries ago, but in human beings and in living entities in general, it was unknown, perhaps even unthinkable (Herrera *et al*., 2015).

The metabolic model that the researchers have been developing over two decades, demolishes the sacrosanct role of glucose as an energy source, since the carbon skeletons of carbohydrates are the universal precursors of any organic molecule in both plants and animals. If glucose were an energy source, diabetic patients would fly.

But during the time spent studying the metabolic pathways described in textbooks and scientific articles, and which are 95% theoretical (Stobbe, 2012), the researchers learned that living beings do not use oxygen as previously believed (to burn glucose and obtain energy) but optimize it in many ways, as it is a toxic element and has always been present in the equation of water dissociation.

But over eons of years of evolution, nature has placed it in specific, important places necessary for life, such as the formation of clays requires the oxygen that living beings produce.

The less oxygen the arable soil contains, the less fertile it is and vice versa. And the irrational use of agrochemicals disrupts the processes of living beings living in the subsoil, so that the indispensable generation of oxygen is impoverished. This disturbs the sequence of complex biochemical processes that occur inside the subsoil.

The interaction of plant roots with the biome present in the subsoil is not merely the result of chance, as it is the result of millions of years of evolution. The concatenation of the sequence of the little understood interactions between the rhizome and the roots, are the result of millions of years, so they are exact, amazingly accurate, and its resilience is remarkable, but little has been exhausted.

Hence, crop yields have been declining. Well, among several factors, the oxygen levels, both in the clay and in the water with which the crops are irrigated, is no longer adequate for their optimal production, and trying to improve crop yields by force with the use of more and more agrochemicals, will continue to contribute to oxygen, and so necessary in the scheme of life, continue to decline.

MATERIAL AND METHODS

Cucumber and pumpkin seeds were placed in containers that had wet cotton in the control. In the container of exposed seeds, besides seeds and cotton, 10 cubes (10 x 10 x 10 mm) of the material developed by the researchers were placed, based on the biology of the human eye, and which we commercially call QBLOCK™, were placed at the bottom of the container.

The control of the hatching of the seeds was carried out mainly by digital photographic means (Figures 1 to 7).

RESULTS

The researchers took daily photographic controls, then reproduced the most significant.

Comment

The difference between seeds grown in QBLOCK™ presence is significant. Elevated oxygen levels in the culture medium are necessary for germination. Once it is understood that living things do not use glucose to combine with oxygen (combustion), it is realized that nature uses this toxic element, derived from the dissociation of water, in a very extensive and complex way at the same time. For example, the formation of clays, which is the result of millions of years of evolution; during which all the processes that together give rise to and sustain what we call life were gradual and carefully concatenated.

And the basis is the same since the beginning of time and the constant presence of oxygen inside the subsoil. Since the production of oxygen requires living entities, the microorganisms that live in the subsoil and that obtained energy from the environment by dissociating the molecule from the water, produce small but constant amounts of

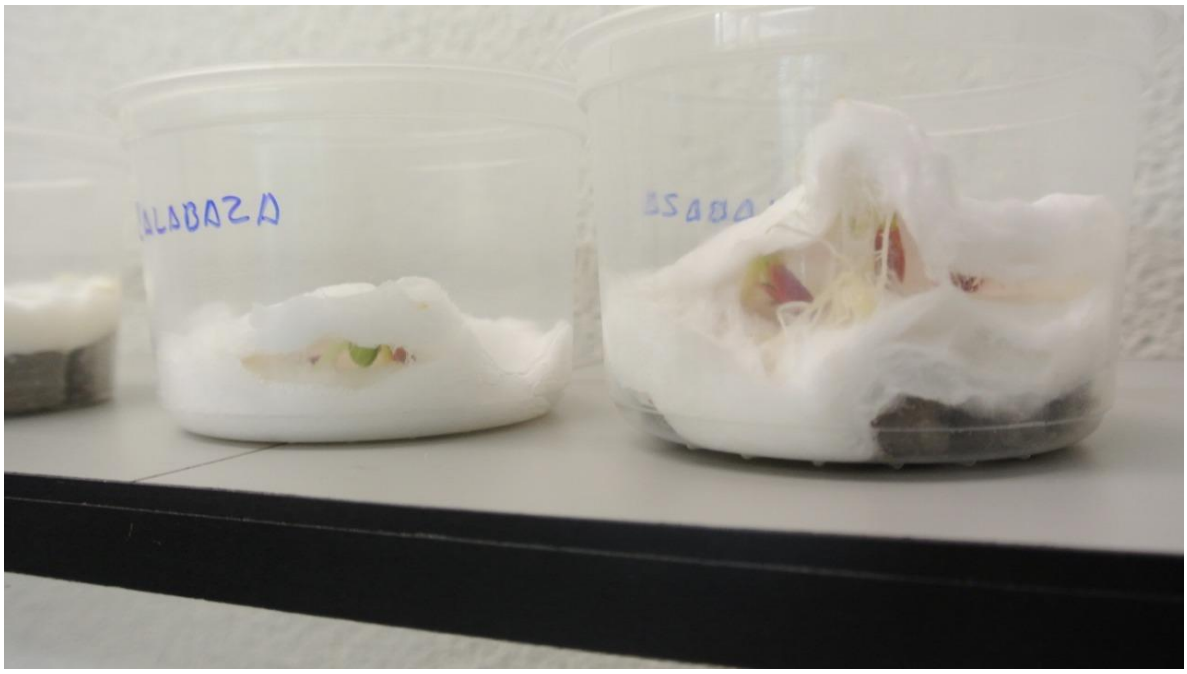

Figure 1. 09/04/2022. On the left, sprouts of pumpkin seed and wet cotton. On the right, sprouts of pumpkin seed, wet cotton, and QBLOCKs. No agrochemicals were used. The experiment began on April 4, 2022.

Figure 2. April 11, 2022. 7 days after the experiment started, the differences between the pumpkin seeds of the control group and the exposed group, began to be noticed. No agrochemicals were used, only water was used. The plants were inside the laboratory.

oxygen, hence the formation of clays is a slow process.

But this is how clays are formed naturally, based fundamentally in oxygen and the other elements and compounds will be given gradually. The agrochemicals currently used artificially increase crop yields especially at the beginning, but over time they disturb the natural process of clay formation, so that, sooner or later, the fertile soil is impoverished until the clay ends up disappearing

Figure 3. April 13, 2022. As the days passed, the differences between the seeds exposed (to QBLOCK™) and those not exposed, were magnified. The photograph was taken 9 days after the experiment began.

Figure 4. April 16, 2022. 12 days after starting the experiment, on the left, sprouts of pumpkin seed and wet cotton. On the right, sprouts of pumpkin seed, wet cotton, and QBLOCKs™. No agrochemicals were used. Differences in the hatching of the shoots are obvious.

and sand like that of deserts is formed.

Observing the way in which nature handles oxygen in the tissues of the human eye, it is understood that these levels must be high and constant. Only in this way is that this organ maintains its form and function throughout life. Any change in oxygen levels leads to a partial or total decrease in visual function, and even to the deformation of the eyeball. So, a healthy eye requires very constant high

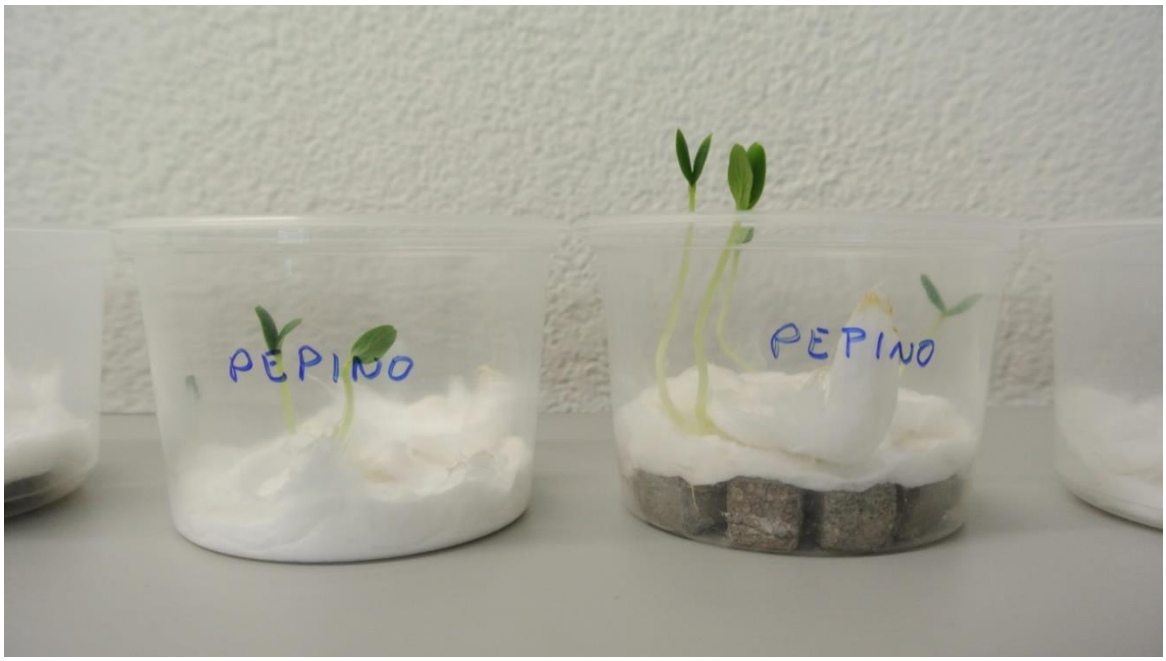

Figure 5. April 13, 2022. Cucumber sprouts, the experiment started on April 4, 2022.

Figure 6: Our material is printed with the date of manufacture as well as the trademark (QBLOCK™).

levels of oxygen. And the same principle applies to clays as this simple experiment proves it.

The method that was developed based on the biology of the human eye, the researchers were able to replicate it in the laboratory in 2007, and have tested it in different projects (at the laboratory level) with satisfactory results, and have even managed to grow in sandy soils and beach sand (Figures 8 and 9), because the first step, these are the high levels of oxygen, and it is the way nature makes soil fertile.

CONCLUSION

The dissociation of water is the universal mechanism by which living beings transform radiant energy into chemical

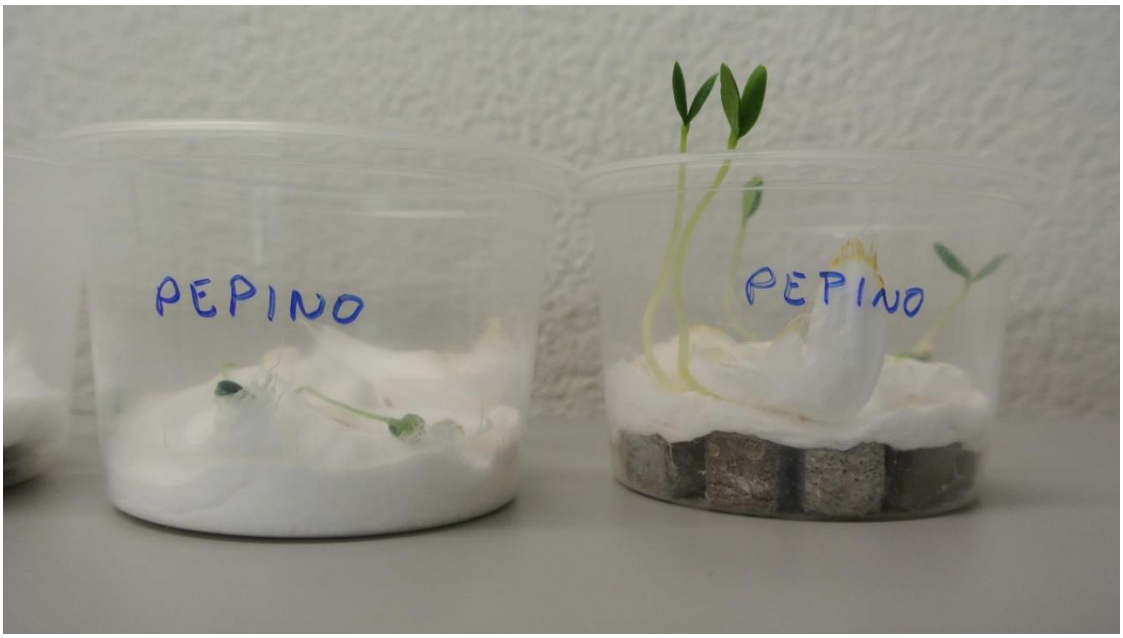

Figure 7. April 16, 2022.

Figure 8. Even in offshore sand, is possible to thrive. In the picture Mango sprout (right), avocado seeds, left

energy. The process in plants was glimpsed by Priestley and Lavoisier just over two centuries ago, but it was believed that only chlorophyll was able to transform light energy into chemical energy by dissociating water.

With the discovery that in the human body there are several pigments capable of carrying out this reaction, the most important being melanin, biology and life sciences in general, enter a new stage that allows us to improve the health of the population and the environment in a physiological and natural way.

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Figure 9. In different types of soil, it is possible to induce fertility-friendly changes using QBLOCK™. The changes do not occur from one day to the next, but finally it is possible to cultivate even species that do not occur in our region, such as tamarind (right and left) and mango (center).

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