

ENERGETICAL TESTING OF BIOSTIMULANTS IN CROPS.

**A new ECOintention model on crops for the introduction
of biostimulants in agriculture**

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Author note:

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Introduction

The trading company Crehumus distributed some biostimulants in which the CEO De Boer had confidence. A biostimulant is a natural product to be used in plant cultivation to stimulate growth and yield. He liked to introduce more biostimulants. For a quick introduction of new biostimulants expensive research is needed to verify the possibilities and the benefits for the farmers. Introduction of agents that control diseases of plants may cost millions of euros before the agent is registered to be used in agriculture against diseases (Velivelli et al., 2014). That's why De Boer asked to investigate if energetical measurements could help him to select effective biostimulants or even to make his own effective mix of biostimulants. De Boer received many agents like extracts from plants or algae, minerals from sea or land or beneficial bacteria formulated in granules or otherwise which he could bring onto the market.

The normal ECOintention practice is that the energy of the company or an abstract project (of that company) is harmonized energetically. Then, it turns out that for example the financial output and the organization of the company significantly increases while also the well-being of the manager improves (Lamers, 2010). But this doesn't give information about the possibilities of the individual biostimulants.

The goal of the research on the selection of biostimulants

The goal of the complete research is to explore to what extent the biostimulants influence the energetical values of crops and soils, to search for special applications in the situation of bad growth due to specific diseases in crops and to look for the specifications in the way (i.e., dosage, frequency) the biostimulants can be applied to achieve the highest yield.

The whole research is described in 13 reports displayed in the Appendix. This article describes the most important energetical steps. More in detail these steps are the determination of the energetical properties and vitalization of some biostimulants and their effects on yield of healthy and diseased

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crops like onions. What meant the research of the energetical properties of the biostimulants for Crehumus? This article also describes how the entire research process has led to the creation of an ECOintention model.

An ECOintention model stands for specific energetical research with a pendulum to establish many quantitative data (parameter) for exploring unknown situations in a specific defined area (variables).

The energetical test procedure

The test procedure started with placing coded samples of biostimulants in an energetically neutralized area (figure 1). First their energetical effect on a real sample of soil or harvest product was investigated. After that, a resonator for an average healthy crop was used in the form of diverse pictures of that healthy crop. The resonator for a diseased crop consisted out of several pictures of a crop or of a plant affected by that disease sometimes together with the written name of the disease. The energetical measurements were done by two ECOintention practioners in a way as is described by Andeweg (1999 and 2011) and taught by vocational ECOintention training.

Figure 1. A setup of the ECOintention model with an energetically neutralized area and bottles of biostimulants surrounding photos with crops of onions attacked by white rot.



The effects of biostimulants on soils and crops.

When new biostimulants were checked, first the energetical values of these biostimulants were measured. The energetical values of the original biostimulants were rather low (table 1) and the stress load (dor and oranur) rather high. One out of more than 20 biostimulants was rejected because it felt too bad while even the stress load could not be neutralized (Appendix, no 8).

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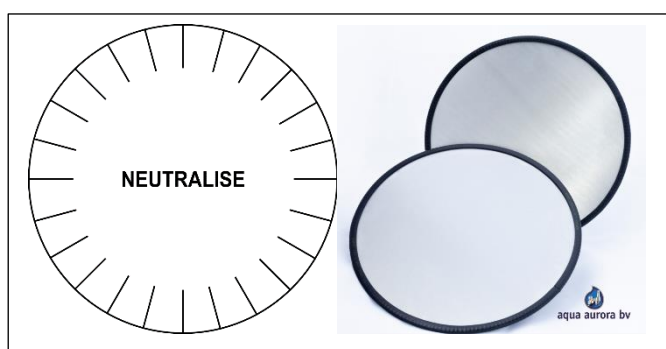
The next step was to check in what way the biostimulants influenced the real soil or harvest product energetically. In many cases different energy values were checked, sometimes only the Bovis was measured. There was chosen for the Bovis (holiness) but this could have been also the POA value (problem solving ability). In many instances the height of the Bovis and POA values were related to each other.

The tested Bovis value of three soils ranged between 3600 (clay) and 8100 (organically managed silt soil; Appendix, no 1). After optimal application of an energetical good biostimulant Ba2 (Bovis was 8200) the Bovis value of the soils increased till 7800 and 9100, the soil radiation increased and the average yield of 11 crops on these soils increased also with 10-7 % respectively. So, an energetical good biostimulant increases the energy of the soil and crop as well as the yield of the crop.

The effect of vitalizing biostimulants.

It was investigated how the energetic values of the biostimulants could be optimized. When one

Figure 2. The Neutralize symbol and the Energy Plate to vitalize the biostimulants.



biostimulant YB4 with a very low Bovis value

was neutralized with the Neutralize symbol

(Neutralize, 2016; figure 2) the Bovis value

of the biostimulant increased from 4800 till

6100, while the stress values Dor and Oranur

almost disappeared (table 1). When the

neutralized YB4+ was optimally applied on

three crops the Bovis value of these crops

increased from 4800 to 6100 as did the yield of the crops (+ 4 %). Still the biostimulant needed more

energy. An energy plate of AA (Energy plate, 2019) was found. The vitalization of the biostimulants

with the Neutralize symbol and the Energy Plate resulted in near optimal energetical values for all

the biostimulants but also for the treated crops (Bovis 8500). At the same time the yield of healthy

onions increased with 11-12 % (table 1).

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The vitalization of all the biostimulants and their effect on soil and crop turns out to be quite promising. Especially the relative net yield of the crop after an optimal application of the biostimulant was a good parameter to find the best biostimulant.

All new biostimulants had a small to large effect on the yield of the crops. The small effect on yield might be explained as a placebo effect (Talbot, 2000). Biostimulants may also stimulate the pathways in crops that enhance the resistance to some pathogens (Van der Wurf et al., 2014). Then, the yield increase may be higher than the placebo effect. So, the next step is to look for the effects on yield in diseased crops.

Table 1. Energetical values of 4 biostimulants before and after vitalization with a neutralizer (N) or energy plate (EP). The relative yield of healthy onion crops and crops attacked by white rot are displayed after the crops were optimally treated with the biostimulant.

Bio-stimulant	Vitalized		Bovis	Poa	Orgon	Dor	Oranur	Ground-ing	Onion yield	
	N	EP							Healthy	White rot
Control									100	75
YB4	-	-	4800	19	26	-759	-330	-7	101*	
E	-	-	5600	27	23	480	380	-19	107	88
RI9	-	-	5300	29	23	170	560	16	106	86
Gr10	-	-	6200	31	28	170	820	8	102	86
YB4+	+	-	6100	20	35	-55	77	27	105*	
E++	+	+	8800	72	46	0	0	93	111	91
RI9++	+	+	8200	71	45	0	0	92	112	89
Gr10++	+	+	8400	73	46	1	0	94	112	92
Optimal values			8200	81	41	0	0	100		

* Not onion but the average relative yield of potato, sweet pepper and tomato.

The effect of biostimulants on diseased crops.

To investigate or biostimulants have a better effect in diseased crops than in healthy crops, both situations have to be tested and compared. White rot (*Sclerotium cepivorum*) is a serious disease in onions and in this case the yield of the diseased onions tested a decrease of 25 % (table 1). In table 1 for three vitalized and non-vitalized biostimulants the yield is displayed. After application of the three non-vitalized biostimulants the average yield of the healthy (100 %) and the diseased onions (75 %) increased with 5 % and with 12 % respectively. After application of the three vitalized biostimulants the yield increase was 12 % and 16 % respectively. So, in this situation the three biostimulants had a better effect in a diseased crop. In contrary it may be noticed that the vitalization of the biostimulants affected the yield the most in healthy onions (+ 7 %; from +5 % to 12 %; table 1) compared to diseased onions (+4 %; from +12 % to 16 %). Diseased onions seemed less able to profit from the vitalization of the biostimulants.

Even better results could be obtained by combining biostimulants. Out of 13 biostimulants the highest yielding biostimulant for a diseased crop was selected (yield 93 %). Then every biostimulant was linked to this best performing biostimulant and the best combination of products was elaborated. Even a third biostimulant could be added to this combination to obtain the highest yields. Then, these three biostimulants together increased yield to 107 % when used in a mixture applied on the soil. Another mixture of three biostimulants was elaborated to be applied on the crop (crop mixture). By looking for the highest yield, the mutual ratio of the biostimulants in the mixture, the dosage, time and frequency of application of a certain mixture was worked out in the same way (Appendix, no 12). This was important information for Crehumus.

In total the energetical measurements were applied to a part of 37 biostimulants and on 28 plant pathogen - crop combinations. These measurements were executed with the yield as parameter of measurement. In this way a constant way of examination of biostimulants was fixed. One can say

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that there is created a model of examining crops in an ECOintention way. This ECOintention model on crops can be applied in a broader way to test also the effect of chemical disease control agents on crops and pathogens (Appendix, no 4 and no 5) or even to follow the survival of a specific pathogen in the soil (parameter: the relative viability of the pathogen; Appendix, no 12).

The present situation for Crehumus

The energetical measurements were a great help for the Company (personal communication De Boer, 2021). It highlighted the most important biostimulants and it gave confidence in their effect on the increase in yield of crops. Every time good results were achieved when farmers themselves tested the biostimulants on strips of their land. The advice to vitalize all the biostimulants was consistently performed by Crehumus. The success of the introduction led to an increased number of employees in his firm from one to four, but during the recent Covid crisis the number decreased to two. The energetical introduction led to some selling highlights as biostimulants applied in organic grown onions and lilies. Also, the function of dealer in biostimulants is growing.

Evaluation of the ECOintention model on treatments in crops.

This research describes how a lot of energetical measurements led successfully to a construction of an ECOintention model to test biostimulants in agriculture or horticulture. A determinant decision was to use the relative net yield of a crop as parameter for application.

It can be concluded that

- the energetical values of biostimulants can be optimized by the Neutralize symbol to harmonize the stress values and by an Energy Plate for more life energy. Due to this vitalization the treated soils or crops achieved higher energetical values and the yield increased with 4-7 %, evaluated with the ECOintention model on crops.
- This ECOintention model makes it possible to test rapidly a lot of variables like, what is the best combination of biostimulants to be used as soil or crop application in a specific situation and

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what is the optimal formulation, dosage, frequency of these mixtures and what are the best times of application on soil and crop.

- Other parameters can be tested also in this model. The parameter of relative yield of a crop was changed to relative number of surviving structures of the pathogen. Then the contamination of the pathogen in the soil in time could be investigated meaningfully also in relation to the application of a specific biostimulant.

It seems as if a morphic field is built during the testing and when the model is used more and more the morphic field becomes steadier and firmer. This makes the testing more easily to be repeated. A prerequisite seems that the initial work is done in an ECOintentional way to test energetically safe (testing field), with knowledge of the subject (specialist) and in a reliable intersubjective way (at least two ECOintention Practioners). In this way new ECOintentional models of testing can be set up for a lot of situations. The investment of time to measure all the variables in the ECOintentional model is quite limited when a good plan for obtaining the necessary data (included control) is made. Then the cost-benefit analysis is profitable and a high interest of the companies or nature management organizations can be expected.

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These reports are confidential but can be read under supervision.