chatter plant

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INTERVIEW

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1) ## 1. Functioning of IVIA greenhouses and level of technification. ¿Has everyone access? ¿Where are they placed? ¿How many greenhouses are in researching centre?

IVIA has two kind of greenhouses. The first type is highly techinificated and it is provided with climate control (temperature, photoperiod and humidity). They are used in highly precise investigations. For example, to understand and detect the plants response to a given stress, like salinity, hydric stress or extreme temperatures. Plants placed on this kind of greenhouses are cultivated in pots or with a hydroponic system, depending on the type of experiment.

The second type of greenhouse is less technificated. They serve to study the plants behaviour in real condition. Plants placed there, are cultivated in the ground or with a hydroponic system. In the hydroponic system, the source of nutrients is the nutrient solution which concentration could vary in order to introduce a giving stress.

In the horticulture line of research, we have one technificated greenhouse and three less technificated, which are the standard ones in Valencian Community to cultivate vegetables.

Only the responsible of the experiment have access to the greenhouse in order to cultivate and to control the experiment development.

Greenhouses are placed near of the researching centre. The IVIA has a centralized structured, leaving a large space in where the greenhouses are localized.

2. Problems generated and its solutions.

When cultivating, the plants are always exposed to illnesses. The infection can occur in several ways. For example, the seed could be infected in origin or in the proper greenhouse.

The normal treatment of a determined plant infection is through biological control. Chemical methods are only used in the situations in where biological control fails or in the ones that the plague extension is high. However, there is a high awareness in our plants status in order to act as soon as possible when plagues are detected. For example, when a given plant shows signs of viral infection is immediately retired.

A viral infection could mask the biological expression or the metabolic alteration the researcher wants to study. Thus, there are not the proper conditions to demonstrate your experiment hypothesis. It is important to say that I have never seen a massive plant withdrawal.

3. Would you be interested in ChatterPlant?

ChatterPlant is a great and original idea. I personally thing that synthetic biology could be the key and tool to study early stress detection. With a world population that keeps growing, that has limited resources and also has a soil overexploitation, ChatterPlant could be a good solution in order to face those problems.

In my speciality, I think that ChatterPlant application could be interesting. My main researching line is the abiotic and biotic stress study and how the plants cope these stresses. Sometimes, they are difficult to detect early and they only can be seen when they show the symptoms. This situation produces a waste of time that ChatterPlant could avoid.

An early detection with indicator proteins could be a great advance in order to take the proper corrective measures without affecting to high culture extensions. Also, inducing certain processes allows us to make them shorter and more intense.