***THE CLONE WAR…***

Imagine a world overflowed by armed clones. In this world there are different kinds of clones, each carrying different armour. Often, clones of the same kind are staying together in thousands or even millions, occupying a vast piece of land and they are all designed and equipped to destroy you. The creators of the clones partly control the environment as well. They throw all the normal different people out of the land and they spray deleterious gasses to keep them and, most importantly, keep your people away. From all the creatures in the world the creators hate you the most. The clones are working for them, the clone body turns to gold when it gets old. You, however, want all the gold for yourself, because it is vital for the survival of your kind. You are pirates. You spend years studying the armour and defence techniques of each kind of clones and develop strategies to overcome their defences, chop and steal their precious body. The creators often identify your new moves very fast and develop new stronger clones with armour that is adapted to your new moves, which leads to a never-ending arms race. Secretly, the creator admires your people’s ability to overcome the obstacles and adapt in such a controlled and hostile environment. They want to unravel your secrets for fast adaptation and use them for their benefit in all aspects of their life.

If you think that this is a badly written idea for a movie, you are very right. However, this movie is based on a real story. This is the relationship between crops (clones), human (creators), and plant pathogens (the pirates). The last want to feast and/or reproduce using the recourses that the crop-host provides. A contemporary crop variety is often the product of a well design breeding program. Human controls the adaptation of the crop-host and, in a large extend, the local (micro)ecosystem, which put strong pressure on the pathogen side. The pathogens are called to adapt in this -hostile for them- environment under strong pressure. Unravelling the mechanisms that pathogens employ to adapt under strong selection can expand our basic understanding on the adaptation under strong directional selection and also can provide key information for the development of strategies and policies for the control of harmful organisms of plants (agriculture), animals (veterinary science), and humans (medicine). Furthermore, it can aid the development of strategies for wildlife conservation, which, under the light of the current environmental crisis, becomes more relevant than ever before.