



Interview with two Swiss fruit production experts

Daniel Hofmann, Head of the "Innovation Development" Business Unit at fenaco and David Szalatnay, Head of the Specialist Unit Fruit at Strickhof (agricultural specialist unit for the canton of Zurich) talk about the strengths and weaknesses of fireblight research.

Interview Daniel Hofmann, fenaco:

Fireblight continues to be a very acute topic in Switzerland, Europe and in America. Which innovative strategies are out there at the moment that are able to counter or control fireblight to such an extent that pomaceous fruit can still be produced under acceptable conditions?

Producers have had to live with fireblight for a long time already, even in Europe. However, the degree of suffering is obviously not quite acute enough, otherwise a lot more effort would be put into finding a solution. If fireblight was a new strain of "bird flu", then funding would be increased tenfold by tomorrow. And yet, on a global scale, the apple is still our most important type of fruit, representing huge added value. It is the basis for the existence of millions of producers of pomaceous fruit. As things stand at present, "preventative medicine" in the form of antibiotics can only be an intermediate or emergency solution. Fruit producers are therefore called upon to tackle fireblight with rudimentary methods. They have to put considerable effort into monitoring their cultures, checking each and every branch or tree that is affected, to remove them and destroy them as soon as they are observed. The same applies to fireblight host plants in the surrounding area, hawthorn, for example. This is not a permanent solution, but the only way to keep this disease within reasonable bounds. When pressure rises, alternative methods will need to be used that do not rely on antibiotics. At the moment, however, these alternative methods are not efficient enough yet.

Traditional orchard fruit production is possibly a more environmentally friendly form of cultivation and suitable for maintaining the biodiversity of birds and the landscape. However, unkempt high-crown trees are nests for fireblight pathogens and therefore better and compulsory monitoring of these trees for signs of the disease is required. Effective, spatial separation of orchard fruit production and intensive cultivation is also desirable.



What are your hopes for this international fireblight congress?

This international congress is a very important platform for the exchange of new insights. Due to the very fact that fireblight knows no boundaries, a strengthening of the international network is not only sensible but indispensable. It is high time for us to streamline not only our research efforts, but the crop protection industry and the economy at all levels - from the growers, nurseries and producers, right through to trade. Each level can and must make a contribution; for example by establishing a risk management system, early warning systems, climate indicators, the characteristics of different varieties, etc... These are all important issues.

What do all the experts agree on?

That we need a control strategy that doesn't rely on antibiotics - we all agree that we need alternatives. But we also need varieties of apples and pears that are resistant to fireblight or at least less susceptible. Research scientists and fruit growers are called upon to face this challenge. However, this can only be a part of the solution; producers will not be able to replace the cultures very quickly. Each new culture is designed to be planted for 15 to 20 years. And we also cannot ignore the needs of the market. Consumers will continue to want a choice of high-quality varieties in the future.

Where do the experts disagree?

No subject should be taboo - at least in research: even (temporary) solutions based on GMO, transgenic breeding, etc. should be researched, checked and tested. This is where politics (and consumers) restrict research.

What do you think is urgently needed to achieve the next breakthrough in terms of combating fireblight?

More funding and more internationally-coordinated cooperation in research and cultivation. More transparency instead of competition among the international research institutes! Integration of all levels, as practical experience is also important. Objective and transparent communication among all the interested parties.

What role do you see for Swiss fireblight research in the future?

Agroscope has an excellent international reputation. Switzerland can be a pioneer in this area, but it doesn't have to be. Swiss producers of pomaceous fruit could be integrated into research work and benefit directly from the progress that is made.



However, international collaborations in all the relevant areas are important. (Basic research, cultivation, practical experience.) Fireblight represents a very complex challenge; it is therefore unlikely that there will be a single solution to controlling fireblight.

Daniel Hofmann
fenaco cooperative
Innovation & Research
Route de Chardonne 2, Case postale
144, 1070 Puidoux
Tel +41 (0)58 433 70 15
Mobile +41 (0)79 250 23 06
daniel.hofmann@fenaco.com
www.fenaco.ch



Interview David Szalatnay, Strickhof:

Fireblight continues to be a a very acute topic in Switzerland, Europe and in America. Which innovative strategies are out there at the moment that are able to counter or control fireblight to such an extent that pomaceous fruit can still be produced under acceptable conditions?

A great deal has been learned about handling fireblight in Switzerland in the past. Having started to follow a control strategy, with the goal of clearing all the infected plants, we have now moved on to fireblight management. The objective of fireblight management is to reduce the pressure from fireblight so as to prevent fireblight infestations from jeopardising the existence of fruit producers and enable valuable crops of high-crown trees to survive. Single measures will not enable us to achieve this goal; we will need a variety of closely coordinated components. This includes observance of hygiene measures in fruit plants, continual monitoring of trees for infection, correct pruning out of infected parts of plants and plants that are infected to a lesser extent, or the clearance of heavily infected and extremely susceptible plants. In the event of an acute risk of fireblight, additional alternative pesticides or streptomycin can be used.

Alternative means still offer potential even though their effect is not as strong in comparison to streptomycin. Last year, Aureobasidium pullulans, a yeast-like fungus,



was put to use for the first time in the canton of Zurich, based on recommendations made by the authorities. The fruit producers initial experience has been positive.

In the long term, the goal will be to move towards varieties of apples and pears that are less susceptible. However, we should not delude ourselves in this regard. Up until now, save for a few exceptions, hardly any marketable varieties have been produced that are less susceptible and of significance to agriculture. It takes about 20 years from crossbreeding to producing a marketable variety under the application of classic cultivation methods. And a few more years go by until these varieties have become established on the market and popular among consumers.

With the current fireblight strategy pursued by the Federal State and the Cantons, we are already in a position, today, to live with fireblight.

What are your hopes for this international fireblight congress?

An exchange among experts from different areas around the world is still of value. Speaking for myself, I hope to obtain a comprehensive picture of current research into fireblight. In the role of advisor, the topic of epidemiology and control strategy is particularly interesting. Establishing contacts with people from different countries is also valuable for potential future collaborations. Thanks to earlier international events, joint trials have already been planned and conducted by the fireblight team at Strickhof together with institutes abroad.

What do all the experts agree on?

If fireblight takes hold locally to a larger extent it is no longer possible to get rid of it. Experience also shows that so far no varieties of apples have really become immune to fireblight. This means that even robust varieties of apples can become infected by fireblight.

Where do the experts disagree?

Opinions differ as to which control strategy is best. This is not due to the fact that there are different viewpoints with regard to the pathogen but because local conditions are not really comparable, or that available funding has varied.

The strategy to control fireblight in areas such as the USA, which has very large fruit plants and no orchards of scattered fruit trees in the immediate vicinity, is going to be very different in comparison with Swiss strategies, with our very small, structured farms, in which old high-crown trees play an important role.



What do you think is urgently needed to achieve the next breakthrough in terms of combating fireblight?

We should definitely continue to pursue the path we have already taken. Cooperation among research and advisory centres works well, not only at home but beyond national borders as well. And so it should be, as fireblight isn't stopped by national borders!

To ensure that research can be continued, the necessary funding has to be provided. And human resources in fireblight research should at least be maintained, however it would be better if they could be expanded. I am quite concerned about this because of the pressure in Switzerland to save money, which has persisted for quite some time already.

What role do you see for Swiss fireblight research in the future?

Fireblight research should continue to play an important role in Switzerland. Thanks to successful advances in research, such as decoding the fireblight genome, which was conducted by a team at the Agroscope research institute, doors have opened to enable collaboration with other international institutes. At the Swiss Federal Institute of Technology Zurich, important work is being conducted with regard to accelerating breeding.

Without intensive research in Switzerland, international cooperations would definitely be more difficult. And as advisers, we are also reliant on services provided by research, such as the fireblight forecasting software, Maryblyt.

David Szalatnay
Strickhof
Specialist Unit Fruit
Riedhofstr. 62
CH-8408 Winterthur
Tel +41 58 105 91 72
Fax +41 58 105 91 21
david.szalatnay@strickhof.ch
david.szalatnay@bd.zh.ch
www.strickhof.ch

