

Business Case A 90% bird reduction at an Australian apple orchard

Location:	Pakenham, Victoria, Australia	
Application context:	Orchard - Apples (<i>Agriculture</i>)	
Problem definition:	Birds damaging the apples	
Bird species:	Crows (<i>Corvidae</i>), lorikeets (<i>Psittaculidae</i>), parrots (<i>Psittacopasserae</i>), blackbirds (<i>Turdidae</i>), and starlings (<i>Sturnidae</i>)	
Bird behavior:	Foraging	
Time of the year with bird problems:	All year with pressure in February - June	
Time of the day with bird problems:	From dusk till dawn	
Number of systems:	2 x AVIX Autonomic Mark II	
In use since:	2020	
Bird reduction after the laser deployment:	90%	
	Before laser deployment	After laser deployment
Yearly cost of bird damage to one apply variety	AUD 100.000+	AUD 10.000
Number of birds:	100+	A few



Laser bird repellent reduces bird damage by up to 90% at Priest Bros Orchards

On the edge of the Gippsland region of Victoria in Pakenham, we find Priest Bros Orchards, a family-owned business that has been growing and selling apples for more than 100 years. The orchard has a large variety of apples planted on 80 acres, divided into three different fields.

Bird damage to orchards

Even though they have hail netting all over the orchards, the Priests were still finding birds damaging the apples throughout the year. They noticed that the birds were looking for small holes in the nets that are just big enough for them to enter and then find themselves a nice meal. The damage has been caused by a variety of birds, notably crows, lorikeets, parrots, blackbirds, and starlings. The pressure occurs all year but main pressure from February - June during the picking season.

A permanent fix to bird problems - laser bird repellents

Over a year ago Paul Priest, manager at Priest Bros Orchards, started looking for other solutions to their bird problem. He heard about the laser bird repellents at a fruit grower meeting he had participated in. He decided to do some trials with the small lasers first.

With the trials being very successful they decided to go for a more permanent and automated solution, the AVIX Autonomic Mark II. Laser bird repellent automatically projects the laser beam towards the birds. Birds perceive it as a physical danger and fly away to seek safety.



90% bird damage reduction & successful harvest

With the laser working on the farm for a year now, Paul could tell that the laser has been a big success: "one season in and it already paid for itself, a real return on investment." Prior to the laser deployment, the losses due to bird damage to only one apple variety would exceed AUD 100,000 a year. That number is now reduced to only AUD 10,000. The damage to the entire orchard was many times higher. That is a reduction of at least 90% in just a year!

After such a successful year, Paul Priest was confident in acquiring another laser to cover the other part of his orchard. With the second Autonomic, they will be able to cover the whole orchard and protect it from birds.

Next to the big reduction of losses, Paul is also really excited about the user-friendliness of the Autonomic laser: "It is set and forget. No maintenance, you turn it on and don't have to worry about it. You can go on with your daily job."

Paul also adds that due to the different time slots, you have huge flexibility in when to use the lasers. You can set time slots for the times when there is the most bird pressure, so it won't be used unnecessarily. Due to the good positioning of the system (high up), the orchard always stays a safe working place for the staff.



"One season in and it already paid out itself, a real return on investment."

Paul Priest, Manager at Priest Bros Orchards, Victoria, Australia