Climate Change impact on Almond Industry

A study was conducted in 2022 into the impacts of Climate Change on Nonpariel Almonds in Robinvale, Victoria.

The table to the right details the impact of Climate Change on average yields and growing season length for this crop type.

The analysis assumes no change or adaptation to current management practices or varieties.

The analysis was conducted across three different time horizons 2030, 2050 and 2070.

Given what is understood to be the current climate trajectory, the best estimates of climate scenarios are predicted to be somewhere between Representative Concentration Pathway (RCP) 4.5 and RCP 8.5.

This data represents the average of these two different climate scenarios.

Time Period	Yield	Growing season length
	Reduction (%)	Reduction (days)
2030	5	15
2050	11	27
2070	14	35

The below table summarises the main fruit quality issues of concern raised by the Almond industry.

Issue	Cause
Nut Size	Dry matter accumulation by nuts predominantly occurs in November-December; largely an issue of good management practices, but extreme heat can affect embryo growth and biomass accumulation.
Nut Staining	Rainfall at harvest; harvesting also delayed.
Kernel Damage	Nuts are not completely sealed and susceptible to insect ingress; kernels being eaten, larva and frass presence. This is exacerbated by high temperatures and humidity.
Hull Rot	Rain, humidity and high temperatures.
Extreme Harvest Temperatures (Slip Skin)	Extreme hot weather (39˚C) around harvest can lead to "slip skin" if the kernels dry too quickly; can be a processing issue.

Jeremy Giddings - Agriculture Victoria - Regional Manager Irrigation - Mallee
0427 102 285
jeremy.giddings@agriculture.vic.gov.au
www.agriculture.vic.gov.au