FARM IRRIGATION SURVEY GMID[1] 2021/22[2]

IRRIGATION UPGRADES

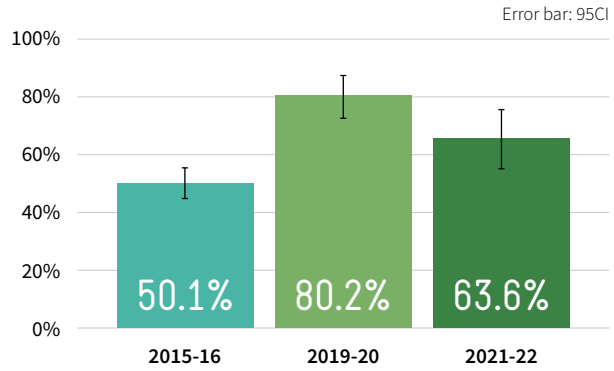
Irrigation infrastructure upgrades are an important way to increase efficiency and effectiveness of irrigating in the region. Regardless, of the strong rate in upgrades, there are barriers that remain.

BACKGROUND

Based on the 2021/22 irrigation season, irrigators were surveyed to understand property-level irrigator decision-making, and build understanding of how the Goulburn Murray Irrigation District (GMID) is changing, and how water users are adapting to changing seasons and water availability.

A sample of irrigators were selected for each of the key land use activities (Dairy, Cropping, Horticulture and Grazing) against Water Use Licence, however care should be taken in analysing results by industry group due to the small sample size[3]. This fact sheet presents a summary of 2021/22 and compares it to 2019/20[4] and 2015/16 data.[5]

Figure 1: Irrigation upgrade (%)[6]



ON-FARM IRRIGATION METHODS

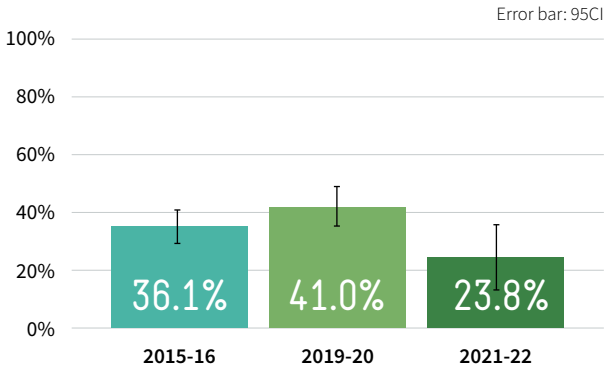
Gravity channel irrigation remains the most common irrigation method with more than 86% of irrigators operating this irrigation system on their properties. Horticultural enterprises were more likely to be using sub surface micro drip with 71% in 2021/22. Centre pivots have increased in use since 2015/16 (3%) increasing to 10% in 2021/22.

UPGRADES TO ON-FARM IRRIGATION INFRASTRUCTURE

Sixty-four percent of irrigators in 2021/22 said that they had upgraded their irrigation infrastructure, compared to 50% in the 2015/16 survey (Figure 1).

Twenty-four percent of irrigators in 2021/22 said they had received funds to upgrade their on-farm irrigation infrastructure, compared to 36% in 2015/16 and 41% in 2019/20 (Figure 2).

Figure 2: Irrigation upgrade with government funding (%)



1. The project area is referred to collectively as the Goulburn Murray Irrigation District (GMID), which includes the GMID (including Woorinen), Tresco and Nyah Irrigation Districts.
2. 2021/22 data is reflective of activity of the respondents at the point of survey and based on the 2021/22 irrigation season (August 2021 to May 2022).
3. Sample size is an important marker of the quality of survey research which can influence the validity and generalisability of study results. In this study, care must be exercised in drawing conclusions about subgroups of population when the number of units captured by the sample in the subgroup is very small.
4. GB CMA (2021). Regional Irrigated Land and Water Use Mapping in the Goulburn Murray Irrigation District (Technical Report), 2019/20. Goulburn Broken Catchment Management Authority, Shepparton.
5. GB CMA (2017). Regional Irrigated Land and Water Use Mapping in the Goulburn Murray Irrigation District (Technical Report), 2015/16. Goulburn Broken Catchment Management Authority, Shepparton.
6. Error bars are provided to indicate the uncertainty in the estimate. The black lines on bar charts indicate error bar with upper and lower bounds of 95% confidence interval (CI).

TYPES OF IRRIGATION INFRASTRUCTURE UPGRADES UNDERTAKEN

In 2021/22 irrigation infrastructure upgrades included laser grading (43%), reuse systems (29%), new irrigation systems (e.g. pipe and risers, centre pivot and linear moves, upgrade of channels and outlets (12%)), installation of automation (22%), soil moisture monitoring system (12%) and irrigation scheduling equipment (6%). Multiple upgrades could apply.

FUNDING OF IRRIGATION INFRASTRUCTURE

Irrigators who had upgraded their on-farm irrigation infrastructure were asked whether they had received funding in the last ten years to do so (e.g. through an irrigation efficiency program). Twenty-four percent of irrigators in 2021/22 indicated that they had received funding for their upgrades in the last ten years compared to 41% in 2019/20 and 36% in 2015/16. This is reflective of funding finishing approximately five years ago.

BARRIERS TO UPGRADING ON-FARM IRRIGATION INFRASTRUCTURE

Over the past 15 years, irrigators have consistently identified uncertainty of water allocation, lack of financial resources and inadequate water availability as barriers to upgrading on-farm irrigation infrastructure (Table 1). However, in 2021/22 when conditions were more favourable compared to 2015/16 and 2019/20, uncertainty of water allocation (43%) was replaced as the top barrier with lack of financial resources (55%). Age or poor health has also increased since 2004/05 from 13% to 34%.

Table 1: Barriers to upgrading on-farm infrastructure

Barriers	2004/05 %	2015/16 %	2019/20 %	2021/22 %
Uncertainty of water allocation	47	54	65	43
Lack of financial resources	50	53	47	55
Inadequate water availability	19	46	43	34
Age or poor health	13	18	24	34
Lack of time	20	21	15	40
Doubts about likely success	12	9	15	8
Connections / outlet modernisation	N/A	26	11	15
Insufficient or inadequate information	4	8	6	10
No barriers	N/A	6	-	-

Accompanying fact sheets are available at **www.gbcma.vic.gov.au**

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Please reference as: *GBCMA (2023). Regional Irrigated Land and Water Use Mapping in the Goulburn Murray Irrigation District - Fact Sheets - 2021/2022.*