



Irrigation Research &  
Extension Committee

# 2022 IREC Weed Control Around Irrigation Structures Trial

**Agriculture Trials with an Agronomic Focus**

**An Area Wide Management of Weeds Project trial targeting  
weed control around irrigation structures on farm.**

## Introduction

On irrigation farms there are several areas where weeds are hard to kill resulting in resistance issues and weed seeds being distributed around farm with water. Irrigation stop/structures are one of the main areas for harbouring weeds which are hard to kill and cannot be removed using cultivation. This trial was established to find alternative methods of keeping these areas clean to reduce weed seed dispersal through irrigation water and reduce resistance issues.

The trial was established at the Irrigation Research & Extension Committee field station at Whitton. Across the site there are 15 concrete irrigation stops (5 treatments x 3 reps) where weeds had gotten out of hand. Prior to treatments being put down a knockdown spray was completed to kill off existing weeds. Once weeds had been knocked down the area around the stop was raked to remove biomass and treatments were applied. Plots were then assessed monthly and weed counts conducted.

## Treatments

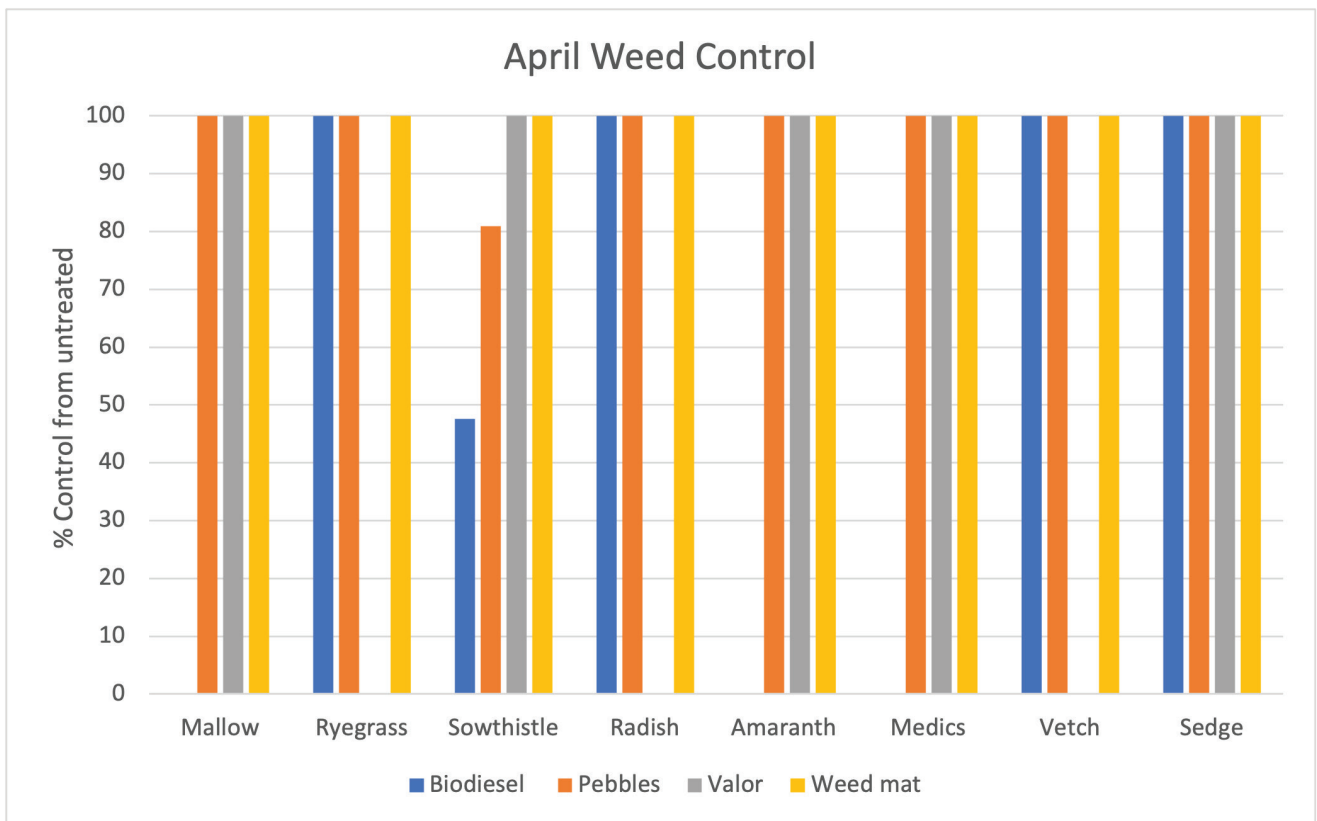
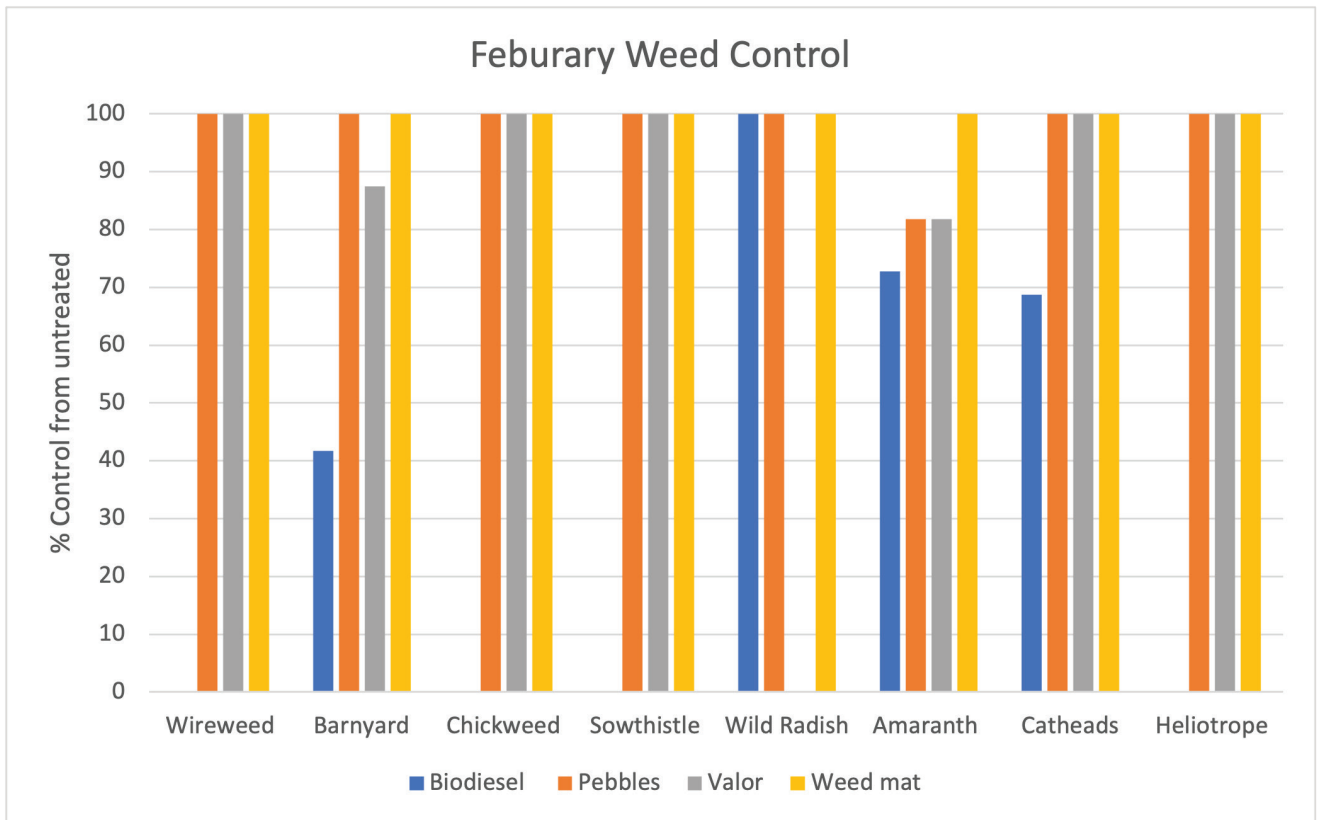
1. Untreated control
2. Weed Matting
3. Biodiesel (2L/ha)
4. Pebbles
5. Valor Residual Herbicide (700g/ha)

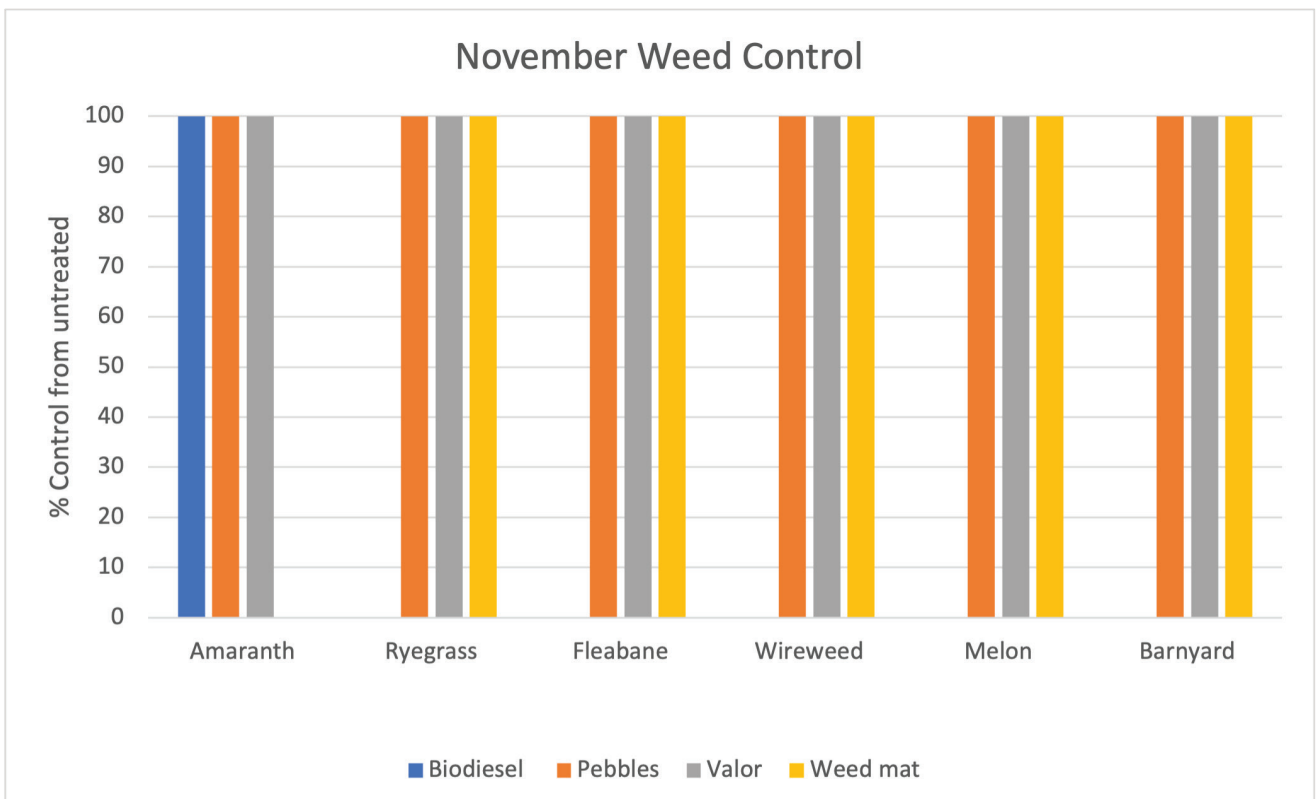
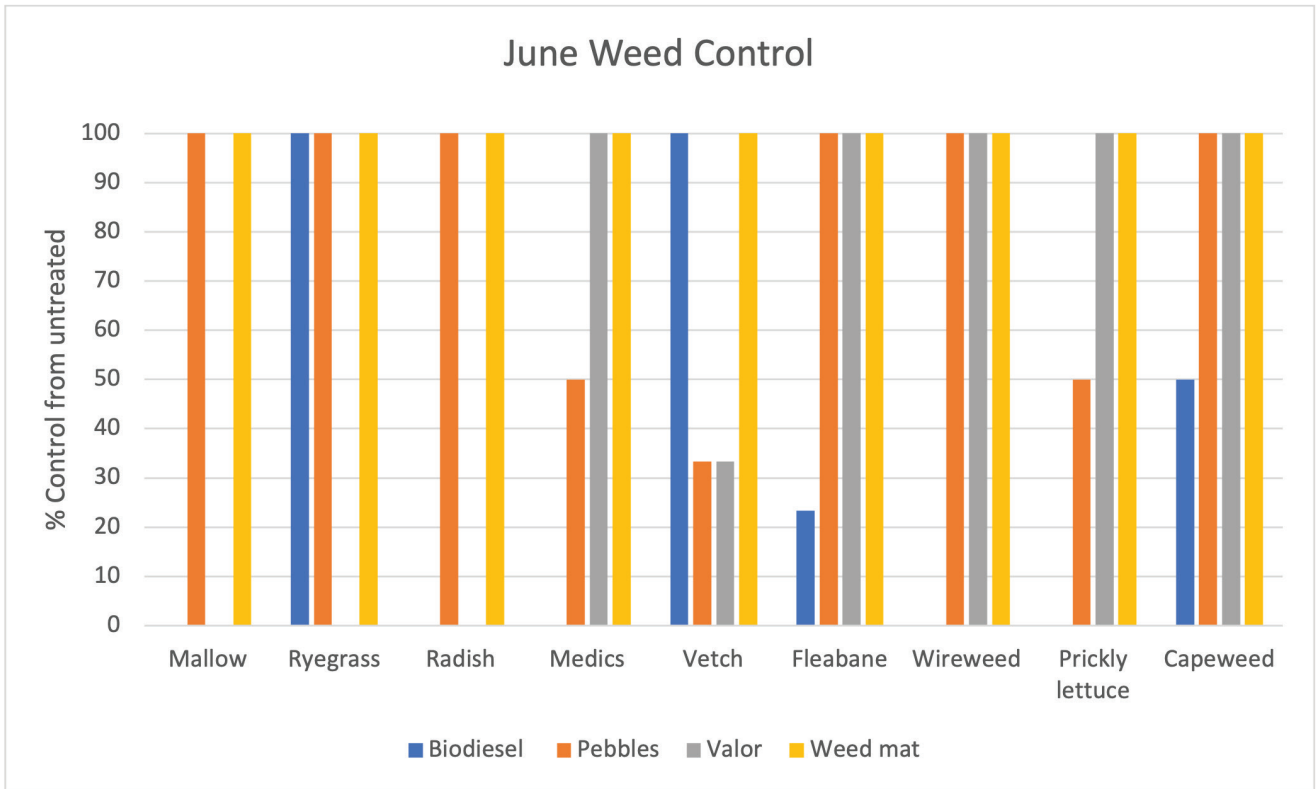
## Application Data

Application Date	17/01/22
Equipment	Jacana Handboom (CO2 propellant)
Temperature	26.8
Humidity	63%
Cloud Cover	0%
Wind Speed/Direction	2 km/hr SW



## Results





The weed matting and pebbles have been a great success with no weeds emerging in these plots. Valor is the best residual treatment having nearly 100% control on all weed species except a few such as wild radish, ryegrass and vetch. After knockdowns were applied through winter months the Valor treatments performed well into spring controlling 100% of the weed populations germinating. The biodiesel has had a mixed effect controlling some of the grasses and surface germinating weeds.

By November the biodiesel plots had next to no impact on germinating weeds however, it controlled Amaranth.



Above: Valor treatment on 24/2/22 to 28/4/22



Above Left: Weed matting treatment remaining clean. Above Right: Pebble still no weeds



Above Left: Control plot with emerging radish 28/4/22.  
Above Right: Biodiesel plot disturbed by back blade, weeds emerging

## Summary

This proof-of-concept trial tested both chemical and physical barriers for weed control around irrigation stops. While more difficult to apply, the weed matting and pebbles provided near 100% control of all weeds germinating around the concrete structures. Commercially, the pebbles are most likely to gain traction as an alternative to chemical means because they also provide erosion control (in a larger aggregate) and are much easier to lay than weed matting on a larger scale. The biodiesel treatment had mixed results but did control some weeds quite well but effects quickly wore off in this scenario with such a high weed seed bank. The stand out treatment was Valor which has a good fit in irrigation systems due to its ability to bind readily to soil particles and not leach.

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