

Water for Profit

CENTRE PIVOT CATCH CAN TRIALS



Catch can trials are used to measure the uniformity (evenness of application) of the irrigation water from centre pivot machines.

Introduction

These uniformity measurements will show up any unevenness due to system layout and design. They can also highlight changes in performance due to poor maintenance or age of the system. The trials require:

- catch cans
- poles to hold the cans upright and
- a ruler or measuring container.

The catch can

All the cans must be watertight and identical in shape and size. The height of the tin should be at least twice the average depth of irrigation water applied. A 10 cm tall baked bean or pet food tin is usually suitable. The can should be attached to a pole ensuring that the lip of the can is above the top of the pole. A short wooden garden stake is ideal. For taller growing crops, obstructions should be cleared from around the can so that all the water can be caught. The cans should be positioned as close to the ground as possible but always slightly above the crop canopy.

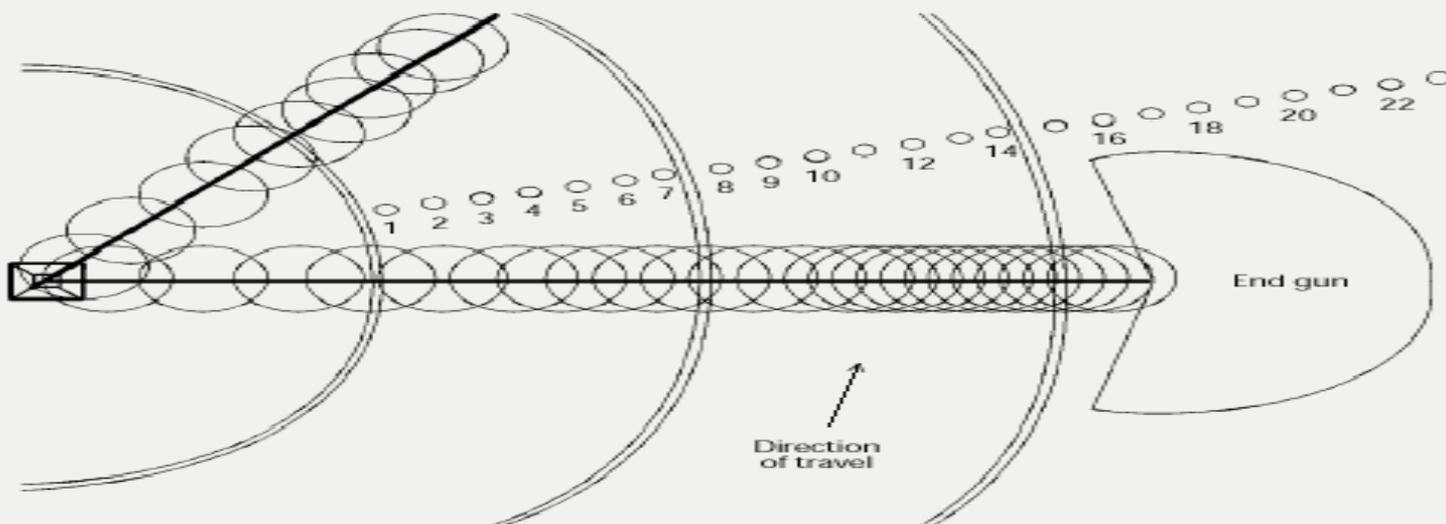
Catch can layout

The catch cans should be spaced perpendicular to the direction of travel of the machine. More than one line of cans may be used to assess variation across the field. The cans should be spaced at no more than 2.25 m intervals along the radial leg. The figure below shows how the cans are set out.

The cans should be placed in the field prior to irrigation and the depth or volume of water captured in each can should be measured after the irrigation has stopped with either a ruler or measuring container. Plot the volume (or depth) of water caught by the can by distance along the machine length to assess the uniformity of application.

Note: it is inappropriate to calculate a distribution uniformity (DU) value from radial leg catch can data. The appropriate uniformity measure for centre pivots is the modified Heermann and Hein coefficient of uniformity. The full procedures for measuring and calculating centre pivot uniformity are detailed in the ISO 11545:1995 or ASAE 5436.1 standards.

For more details contact Growcom on 07 3620 3844.



Disclaimer: This information is provided as a reference tool only. Seek professional advice for irrigation specifics.

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