

Irrigation for Profit

Centre Pivot Irrigation – Sprinkler Packages

Introduction

Currently there is a large range of emitters available for centre pivot irrigators. There are two main groups of emitters for centre pivots:

- Moving plate; and
- Static plate.

Sprinkler Packages

The sprinkler package describes the height, location, spacing, size, type and discharge of each emitter as specified by the manufacturer.

Major variables to consider when selecting a sprinkler package:

- Spacing, close enough to have good overlapping and uniformity of wetting pattern; and

- Type and size, selected to avoid runoff and excessive evaporative and wind drift loss.

When selecting a sprinkler package it should best match the soil, crop and operating conditions.



<i>Feature</i>	<i>Advantages</i>	<i>Disadvantages</i>
Plate configuration		
Fixed-plate	Small droplet size (smooth plate smaller than serrated)	High application rate, high wind drift loss, close sprinkler spacing for high uniformity
Moving-plate, 4-groove	Lowest application rate, low wind drift loss, large sprinkler spacing	Large droplet size
Moving-plate, 6-groove & 9-groove	Low application rate, low wind drift loss, large sprinkler spacing	Medium sized droplet
Trajectory Angle		
Less than 15 degrees	Reduced wind drift	Donut application rate, close sprinkler spacing
Greater than 15 degrees	Uniform application at large sprinkler spacing	Increased wind drift loss
Sprinkler Position		
Overhead	Low cost, high uniformity	High wind drift loss
Drops	Reduced wind drift loss	Increased costs, slightly increased application rate
Offset	Reduced application rate	High cost