



can be grown to fix plant nutrients, the decomposition of cover crop residue releases nutrients, they prevent soil erosion, improve irrigation infiltration, they cool the orchard environment, and they improve equipment passage during rainy seasons. A full coverage irrigation system becomes a much needed tool to manage the cover crop. Allowing the germination during a dry fall, and the irrigation of the cover crop any time of the year.

Full Coverage Irrigation for

WHOLE ORCHARD HEALTH

Use the R5 Rotator® to convert your micro system to a full coverage irrigation system. The high uniformity and low application rate of an R5 full coverage system is the ultimate in micro irrigation.

Full coverage R5 Rotator systems are a smashing success. The top benefits of such systems as reported to us from many different growers are as follows:

1. Expanded wetted area improves tree growth and production. A larger wetted area means a larger reservoir of moisture available to the tree. This reduces stress, sunburn and accelerates growth of 2 to 5 year old trees bringing them into full production faster. The larger wetted area also increases the volume of plant nutrients available to the tree from the decomposition of organic matter or mineralization. The low application rates of the R5 Rotator enable gas exchange just as if drip irrigation were used.

2. Lower application rates improve infiltration. Part coverage sprays, or jet-type micro sprinklers apply water at application rates in a range of about .15 to .4 inches/

hour. An R5 Rotator system applies water at rates in a range of about .04 to .08 inches/hour. For many soils the higher application rates of jets is more than the soil can take and ponding during irrigation occurs. Lower application rates may not fix a problem created by high application rate devices. However, they can go a long ways in preventing problems and will improve infiltration. With the low application rates of an R5 Rotator in combination with soil amendments infiltration problems can be solved.

3. Germinate and grow a cover crop. The benefits of cover crops are many; they reduce dust, some

4. Manage soil salinity. Many growers may not be aware that the long term use of drip and part coverage irrigation systems in tree crops causes pockets of severe salt build up at the edge of wetted patterns. The problem develops after 5 to 15 years of part coverage irrigation. The severity of the problem is dictated by the water source and such problems are very common in California. Although water availability may influence a choice to use a drip irrigation system, it may also destroy the long term sustainability of the land. A full coverage irrigation system can be used in combination with a drip system to manage salinity. In times of greater water availability the full coverage system is used for irrigation and simultaneously the pockets of salinity can be leached below the active root depth.

Send me 20 R5 Rotator® samples!

(Please specify nozzle size _____ & operating pressure _____)

Company Name: _____

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Crops: _____ # of acres: _____



LIMITED OFFER! Fax this form to 509.525.7907, mail to NELSON IRRIGATION CORPORATION, 848 Airport Rd. Walla Walla, WA 99362, or e-mail us at info@nelsonirrigation.com



The R5 Rotator is the only micro-sprinkler that offers full coverage irrigation. A single stream rotating plate provides better uniformity and excellent throw coverage.



Shredded limbs in almond orchard near Modesto, CA. Photo courtesy of Ron Nydam, Waterford Irrigation.

5. The capability to wet all of the orchard floor during summer enables better orchard floor preparations for harvest. Growers report that a retrofit to the R5 Rotator and a full coverage irrigation system can pay for itself in one year because it allows them to level and firm up the orchard floor prior to harvest. The use of brush chippers is now common place. The chips over a 3 to 5 year period of time release nutrients back into the soil as they decompose. A fully wetted orchard floor accelerates the decomposition process and enables tillage equipment to work the chips back into the soil during the summer prior to harvest. The decomposition of the chips is also accelerated if they are worked into the soil.

6. Reduce dust and soil cracking. Dust is known to increase mite populations, it can reduce crop quality and tree vigor, and it pollutes the air that we all breath. A full coverage irrigation system can be used as a management tool to significantly reduce dust emission. Orchard floors can be firmed up prior to harvest, cover crops grown, and the full coverage system can be run prior to machine operations such as spraying and moving to reduce dust emission. Soil cracking damages root systems, traps nuts, and attracts animals that damage an orchard when they forage for the nuts trapped in the cracks. Full coverage irrigation can be managed to eliminate soil cracking.

RETROFIT INSTRUCTIONS



Remove the old micro-sprinkler.



Cut about 1/2" off the end of the micro distribution tube.



Install a new R5 Rotator (flush with the top of the existing stake). The flow of the new R5 nozzle should closely match that of the old micro-sprinkler. Consult with an irrigation dealer to obtain the flow performance of your old micro-sprinklers.

The 5FC flow control nozzle option for the R5 Rotator regulates flow starting as low as 15 PSI. (Commonly-used spinners with pressure compensation are not recommended for use under 20 PSI.) Flow Control Nozzles deliver more accurate flow regulation at lower pressures.

5FC Pressure Range* in PSI

5FC NOZZLE	GREEN PLATE	BLUE PLATE
Orange 5FC	—	20-40
Blue 5FC	25-45	15-40
Purple 5FC	25-45	15-35
Yellow 5FC	25-45	15-30
Red 5FC	25-45	15-30

*When using recommended pressures for a given plate and nozzle configuration, 5FC Flow Control Nozzles are flow regulating within a flow range of no more than 3% greater and 5% less than the nominal flow.

Plate/Nozzle Options and Flow Performance in GPH

Plate Options	Recommended Nozzles	PSI					
		15	20	25	30	35	40
GREEN — upright mount HIGH PRESSURE MODEL Shaded combinations not recommended Radius 14 - 17 Ft	#35 Orange				10.5	11.4	12.1
	#40 Blue			12.2	13.3	14.4	15.5
	#45 Purple			15.4	16.8	18.2	19.6
	#50 Green			18.8	20.6	22.3	23.9
	#55 Yellow			22.8	25	27	29
BLUE — upright mount LOW PRESSURE MODEL Shaded combinations not recommended Radius 11 - 16 Ft	#35 Orange		8.5	9.5	10.5		
	#40 Blue	9.3	10.8	12.2	13.3		
	#45 Purple	11.7	13.7	15.4	16.8		
	#50 Green	14.3	16.8	18.8	20.6		
	#55 Yellow	17.4	20.3	22.8			

Conversion to Full Coverage Irrigation may require changes to the irrigation schedule — such as slightly less frequent sets with longer duration. For details consult with local experts and closely monitor soil moisture.