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ERDF 'WATERR' Project

HNS Workshop : 23rd September 2015

Irrigation Business Review Findings: Opportunities, Challenges and Support Plans

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'WATERR' Project Objectives



To support South East irrigators to improve their profitability and competitiveness by improving water availability and use efficiency

- Improve irrigation productivity / returns by identifying and promoting irrigation 'Best Practice' and leading technologies to:
 - Increase yields
 - Improve produce quality / prices
 - Reduce irrigation costs
- Identify opportunities to improve water availability and collaboration to optimise catchment water management
- Improve the environmental footprint of South East river catchments





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'WATERR' Project Irrigation Business Reviews



Irrigation Business Review Objectives

In depth interviews involving 100 + growers (20% of South East irrigators) to :

- Assess current irrigation water availability and use efficiency
- Impact on production / yields, pricing and financial returns
- Identify 'Best Practice' technologies and techniques
- Improvement Opportunities / Barriers
- Grower Support Needs, and Priorities
- Confirm 'WATERR' Project Support Programme



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'WATERR' Project Irrigation Business Reviews



IBR Growers by Catchment / Region

Kent :	Medway	17
	North Kent	9
	Stour	23
	Romney Marsh	4
	Kent Total	53
	Sussex	9
	Hants/ IOW	13
	Arun	15
	Chichester	14
	Thames	6
	South East Total	110

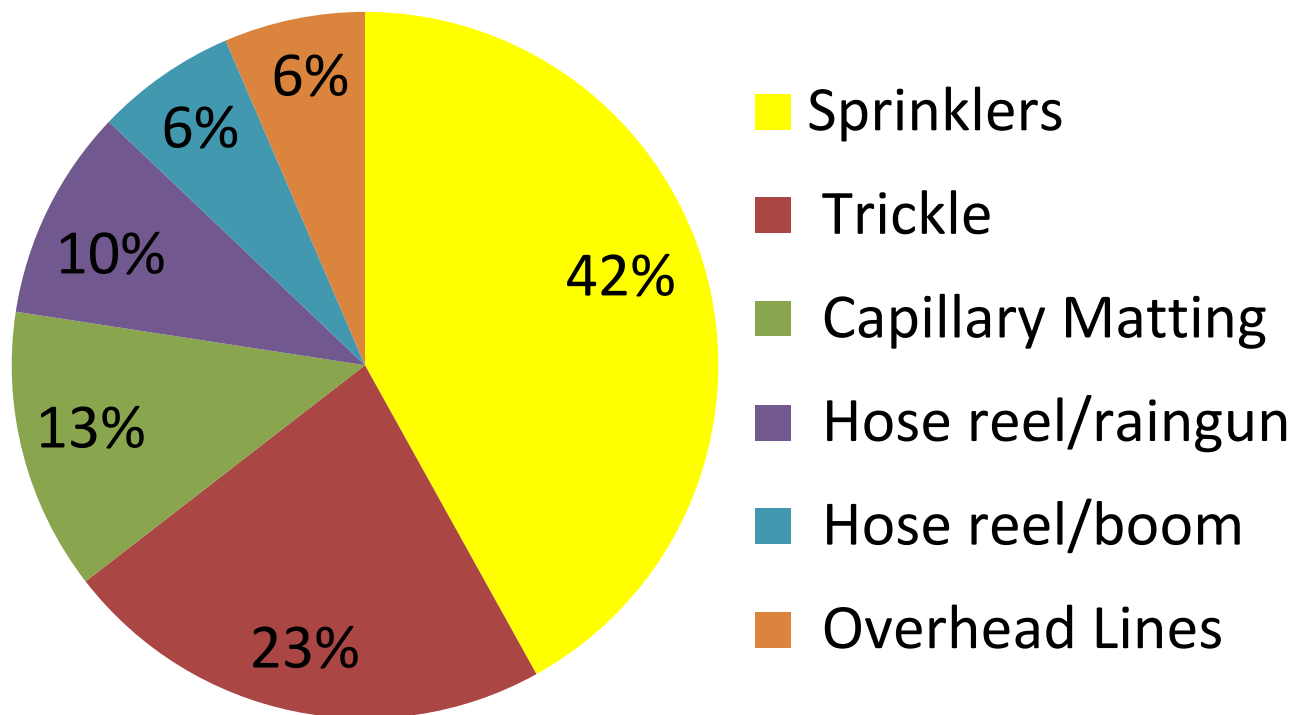


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HNS - Type of Irrigation Used



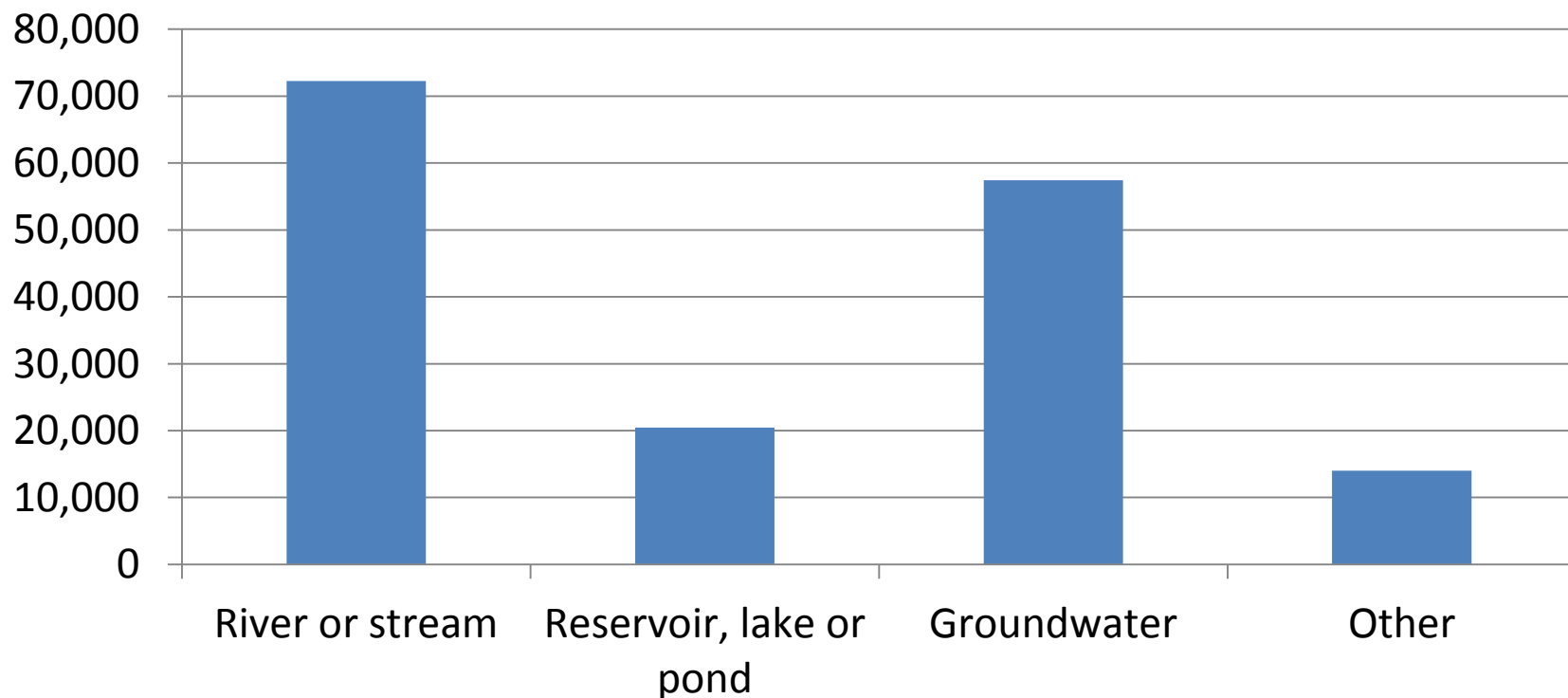


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HNS – Abstraction Licence Volumes (cubic metres)



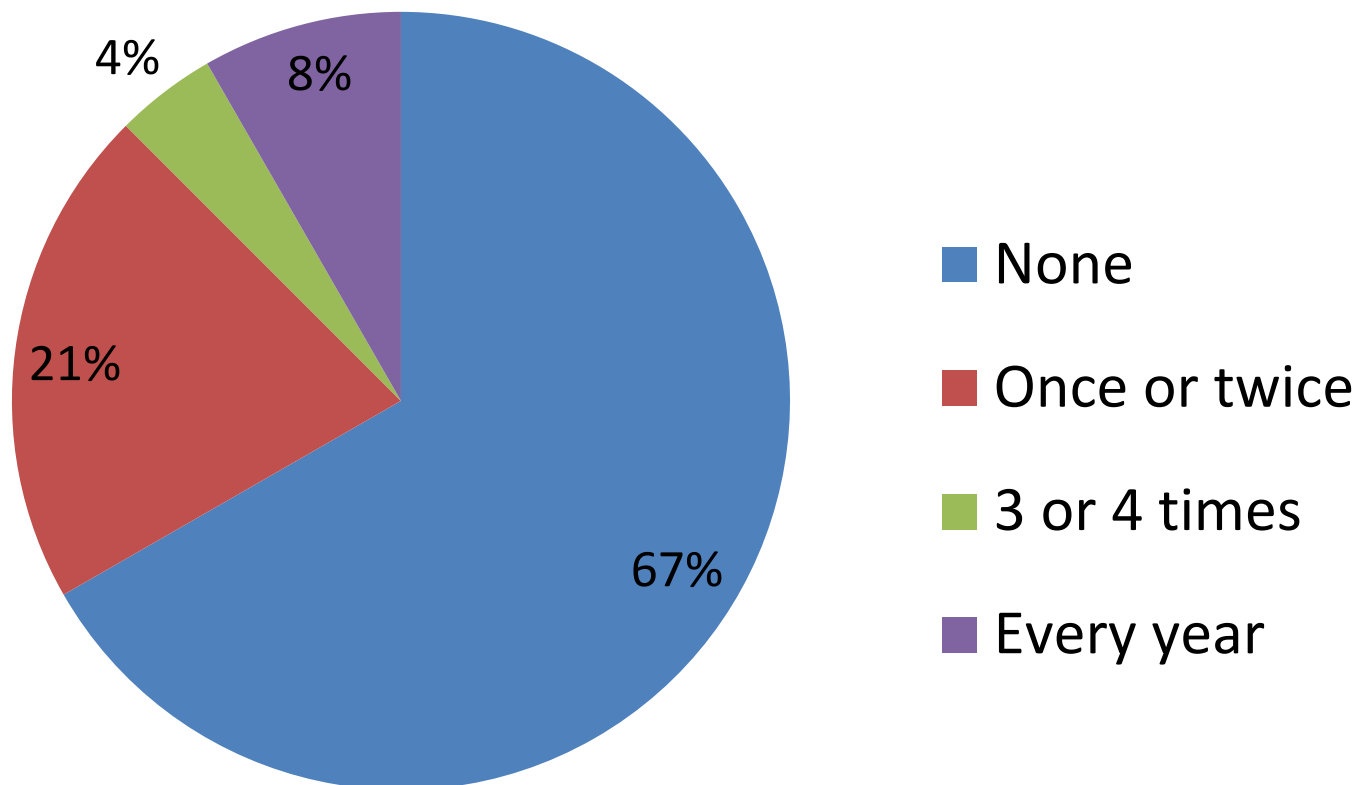


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HNS - Impact of Limited Water Availability on Irrigator Businesses in Past 5 Years



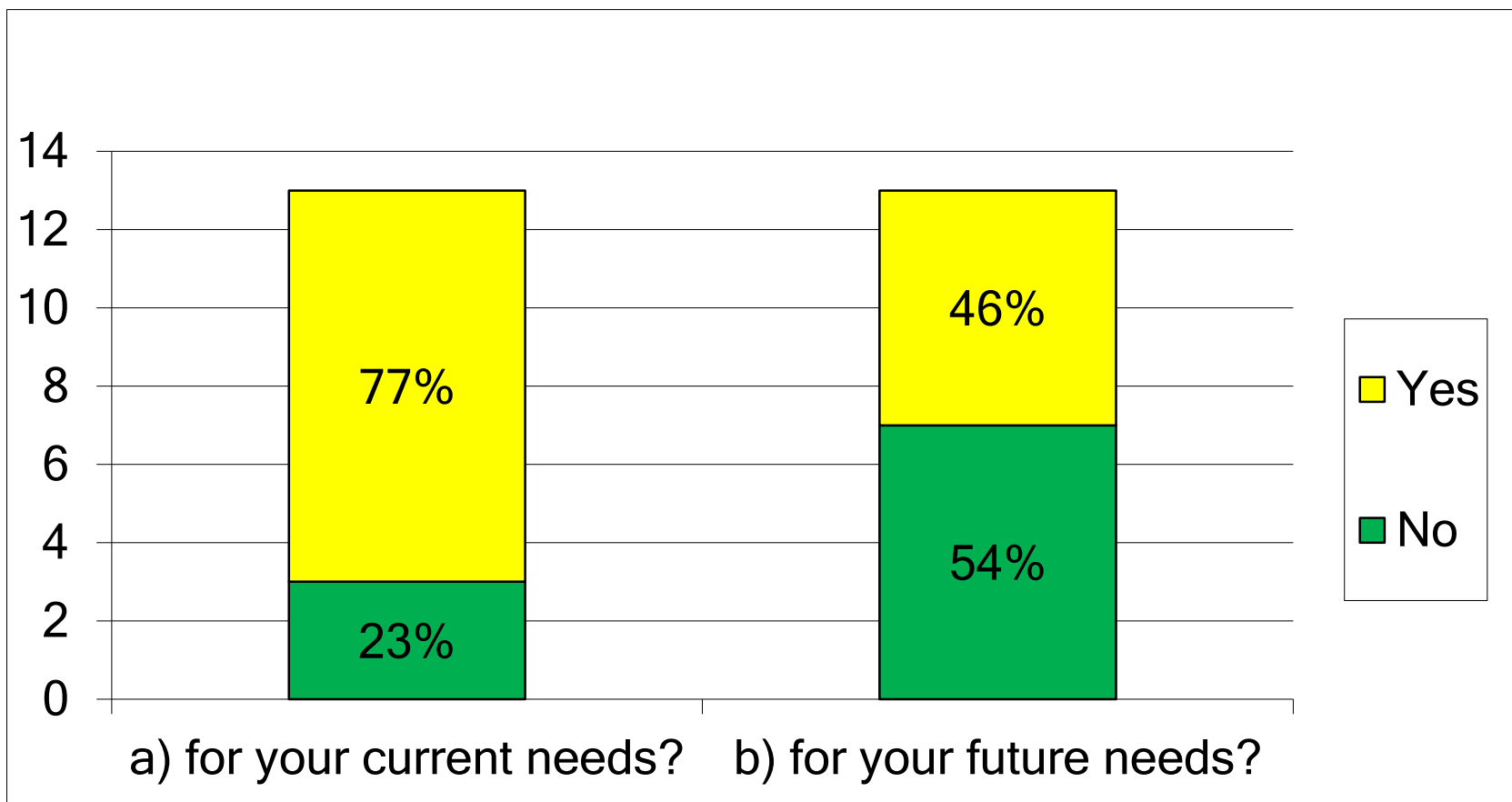


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HNS - Adequacy of Abstraction Licence for Current & Future Needs



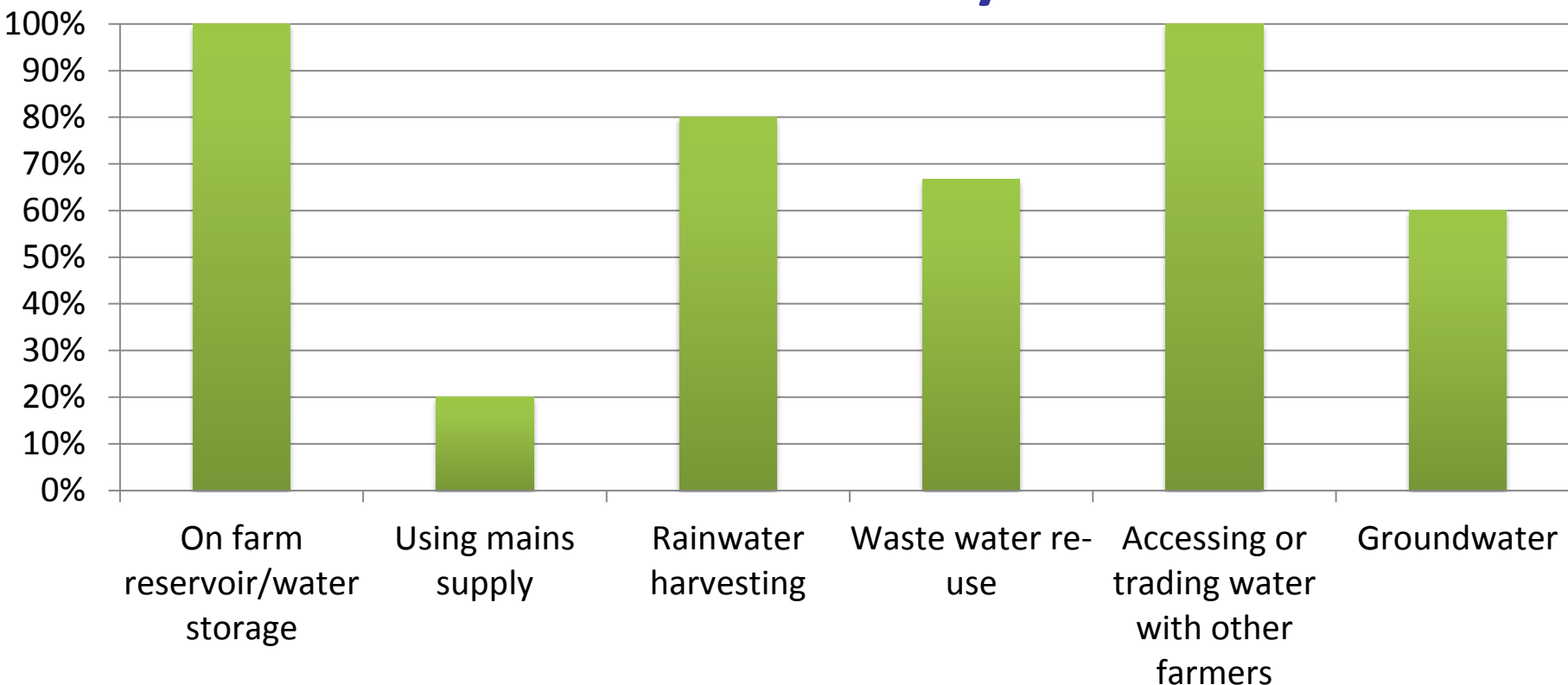


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HNS Opportunities to Increase Water Availability



HNS - Water Availability Comments

- Major concerns about Abstraction Licence Reform and removal of trickle exemption
- A third of growers already impacted by limited water availability
- Most producers looking to increase availability through investment in storage/rainwater harvesting
- Importance of improving water use efficiency recognised:
 - Several growers planning to invest in computer software to monitor application and minimise losses
 - Updating of irrigation systems recognised as a key area to remove inefficiencies and improve uniformity
- Some growers using mains water supply, but expensive and concerns over lack of water pressure leading to extended watering times

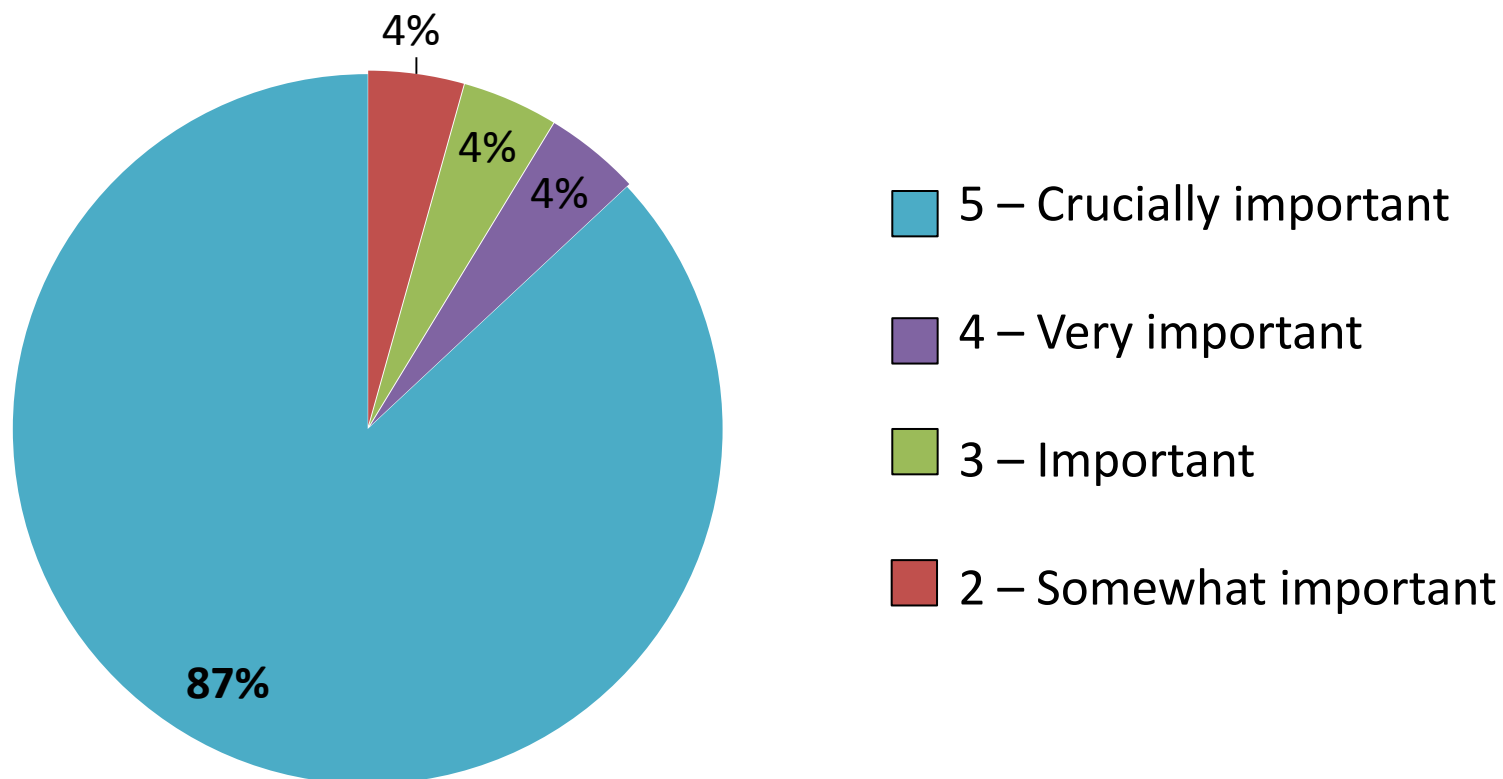


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'WATERR' Project Irrigation Business Reviews



HNS - Importance of Irrigation to Business Performance



HNS Financial Performance Data

- Few HNS growers able to provide detailed information on water use efficiency performance and financial impact
- 75% of the 24 HNS growers interviewed projected potential improvements in water use efficiency of between 5 and 90%



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Irrigation Business Reviews



Irrigator Performance Summary - Water Use Efficiency : 2011–13

	Water Applied		Crop Yields		Irrigation Productivity	
	(M3 / Hectare)		(Tonnes / Hectare.)		(M3 /Tonne)	
	Average	Range	Average	Range	Average	Typical Range
Potatoes	886	115 - 1,775	41	20 - 56	22	12 - 34
Lettuce	784	281- 2,142	20	7 - 34	41	22 - 60
Strawberries :						
- Field	1,437	244 - 2,400	19	5 - 34	79	58 - 99
- Substrate	2,495	1,275 - 3,942	32	18 - 45	82	49 - 108
Raspberries:						
- Field	1,080	543 - 1,523	10	7 - 17	114	87 - 134
- Substrate	1,509	650 - 2,600	13	10 - 20	111	43 - 166
Apples / Pears	197	22 - 860	25	13 - 40	7	3 - 14
Cherries	315	104 - 771	7	3 - 12	66	38 - 94



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Irrigator Performance Summary - Financial Returns : 2011–13

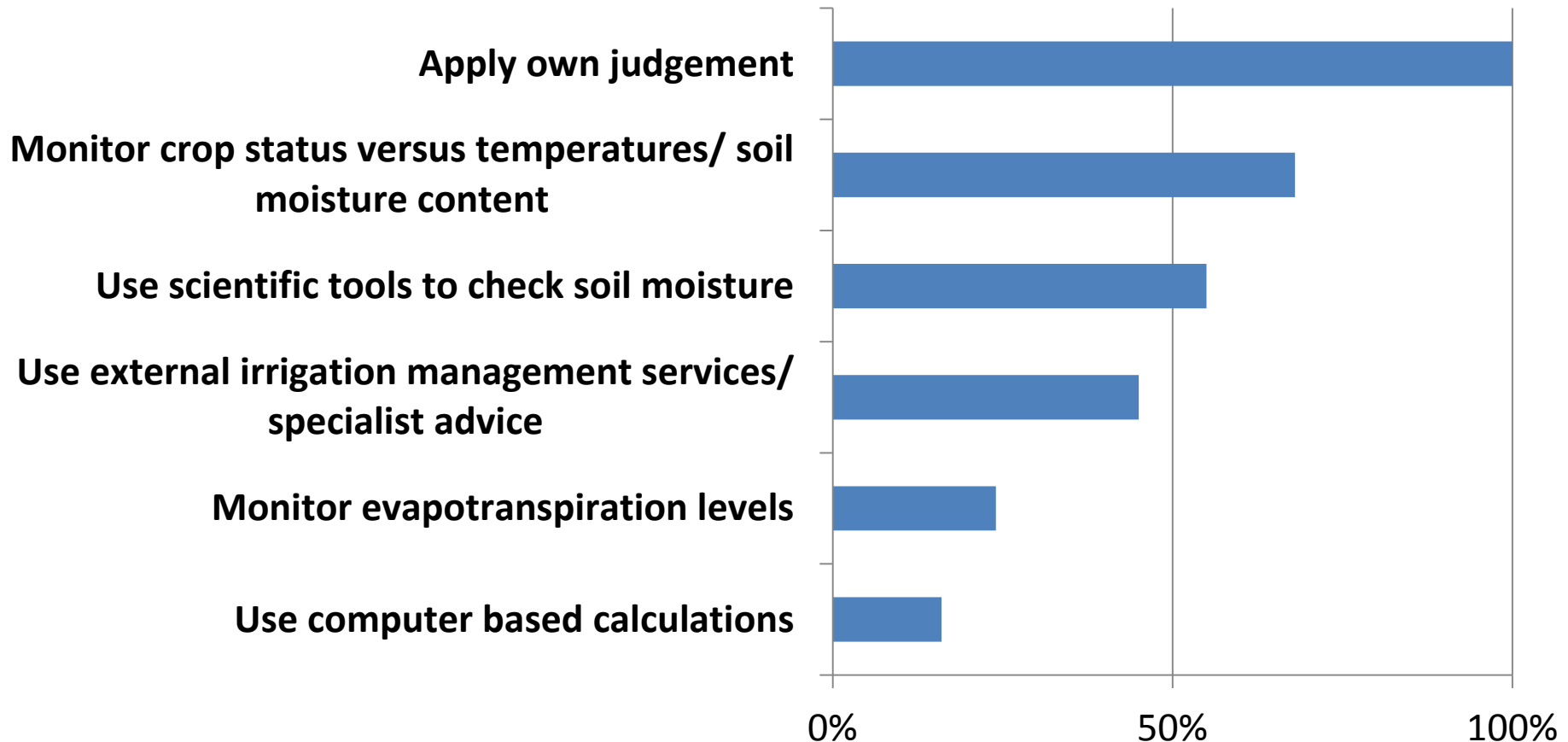
£ per Hectare

	Irrigation Cost		Gross Proceeds	Net Financial Benefit (Est.)	
	Average	Range	Average	Average	% of Proceeds
Potatoes	791	108 - 3,636	8,084	3,904	48%
Lettuce	632	138 - 1,542	11,450	10,682	93%
Strawberries :					
- Field	1,024	209 - 1,860	74,371	31,368	42%
- Substrate	2,867	970 - 5,282	106,383	103,516	97%
Raspberries:					
- Field	1,138	554 - 1,800	66,464	51,291	77%
- Substrate	2,527	840 - 5,014	74,091	71,564	97%
Apples / Pears	327	33 - 1,789	15,334	2,257	15%

HNS Growers : Irrigation 'Best Practice' Ranking (% Rating Important or Very Important)

- 1 Take account of forecast weather conditions (91%)
- 2 Regularly check physical condition of irrigation system (78%)
- 3= Take account of cropping status (75%)
- 3= Provide irrigation training for staff (75%)
- 5 Monitor water distribution/ uniformity (69%)
- 6 Regularly check system pressure/ flow rates/ droplet size (62%)
- 7 Check quality of irrigation water (60%)
- 8 Use scientific tools to schedule irrigation (50%)

HNS - Methods/Equipment Used for Irrigation Scheduling (%)





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Irrigation Business Reviews



HNS - Irrigator Support Needs / Priorities

% of Irrigators Rating Important or Very Important

- 1 Visiting sites which demonstrate Best Practice (67%)**
- 2 Understanding technologies/ techniques having greatest impact (65%)**
- 3= Understanding how own efficiency compares with other irrigators (63%)**
- 3= Learning from experience of other irrigators (63%)**
- 5 Direct 1:1 access to irrigation specialists (57%)**
- 6 Workshops involving suppliers to understand latest technologies (52%)**

'WATERR' Project Further Support Programme

1. WATER AVAILABILITY

1. Abstraction Reform Workshop : 28th September at EMR

- Update from Defra Team Leader on latest plans for Abstraction Reform and removal of trickle exemption .
- Review by NFU water specialist of potential consequences of Reform and options to address.

2. Opportunities to improve water supplies

- 1:1 or Group meetings with the Water Companies to discuss opportunities to access untreated water and / or licence trading
- New Reservoir Guide



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'WATERR' Project Further Support Programme



2. IRRIGATION PERFORMANCE

New Project Proposal

UK Centre for Water Efficient Technologies at EMR

Objectives

Bring together leading irrigation researchers, equipment and services providers at EMR to:

- Research, develop and commercialise an integrated portfolio of technologies and systems for the tree and soft fruit sector (+HNS?)
- Deliver a step change in irrigation water use efficiency, productivity and financial returns .



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Proposal : EMR Centre for Water Efficient Technologies



‘WET’ Centre Strategy

- Create an Irrigation Centre with the research, development and commercialisation infrastructure and critical mass required for suppliers to locate in Kent
- Engage directly with growers, Producer Organisations and Retailers to ensure technologies developed meet the needs of the horticultural sector / supply chain
- Develop integrated / compatible products and systems
- Support commercialisation by raising awareness of the commercial benefits of these new technologies and systems through grower trials, crop specific workshops, demonstrations, training and 1: 1 support .