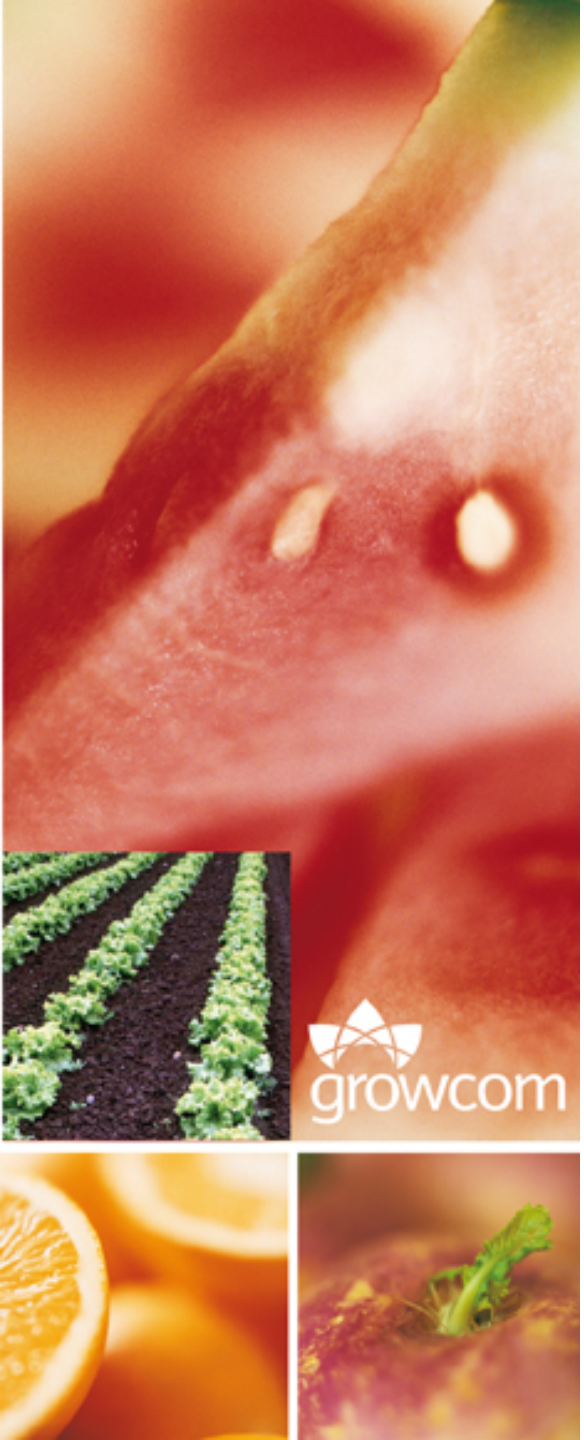

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together we grow

Irrigation & Energy in Horticulture

Presented by Scott Wallace
Hort360 Manager

RWUEI

- *90's – dam or not to dam*
- *Commenced early 2000*
- *$45M – stage 1 RWUEI to deliver a RDEI program across multiple industries, DNRM & university (USQ)*
- *This program still exists today*

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Water for Profit (2000 – 2010)

- *>$230 million/year of gains in water savings and productivity*
- *~60% of horticultural growers changed irrigation management practice (BMP)*
- *>1,600 growers assisted through incentive schemes*
- *10,000+ attendances at activities and workshops*
- *>95% of growers aware of the program*
- *~$23 industry investment for every $1 from govt.*

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Water for Profit

- *Then - $ of water or energy not a driver for change but labour and food quality/grade was*
- Now – labour is still a large $, water costs more, growers still chase premium product and energy has become an issue
- Within a horticulture enterprise irrigation isn't a huge ongoing expense as long as you get it right
- Packing sheds / processing facilities on farm are the big energy users
  - Energy audits conducted prior to ESP demonstrated some of our large enterprises were using >600kW / day
- Horticulture continues to be a price taker

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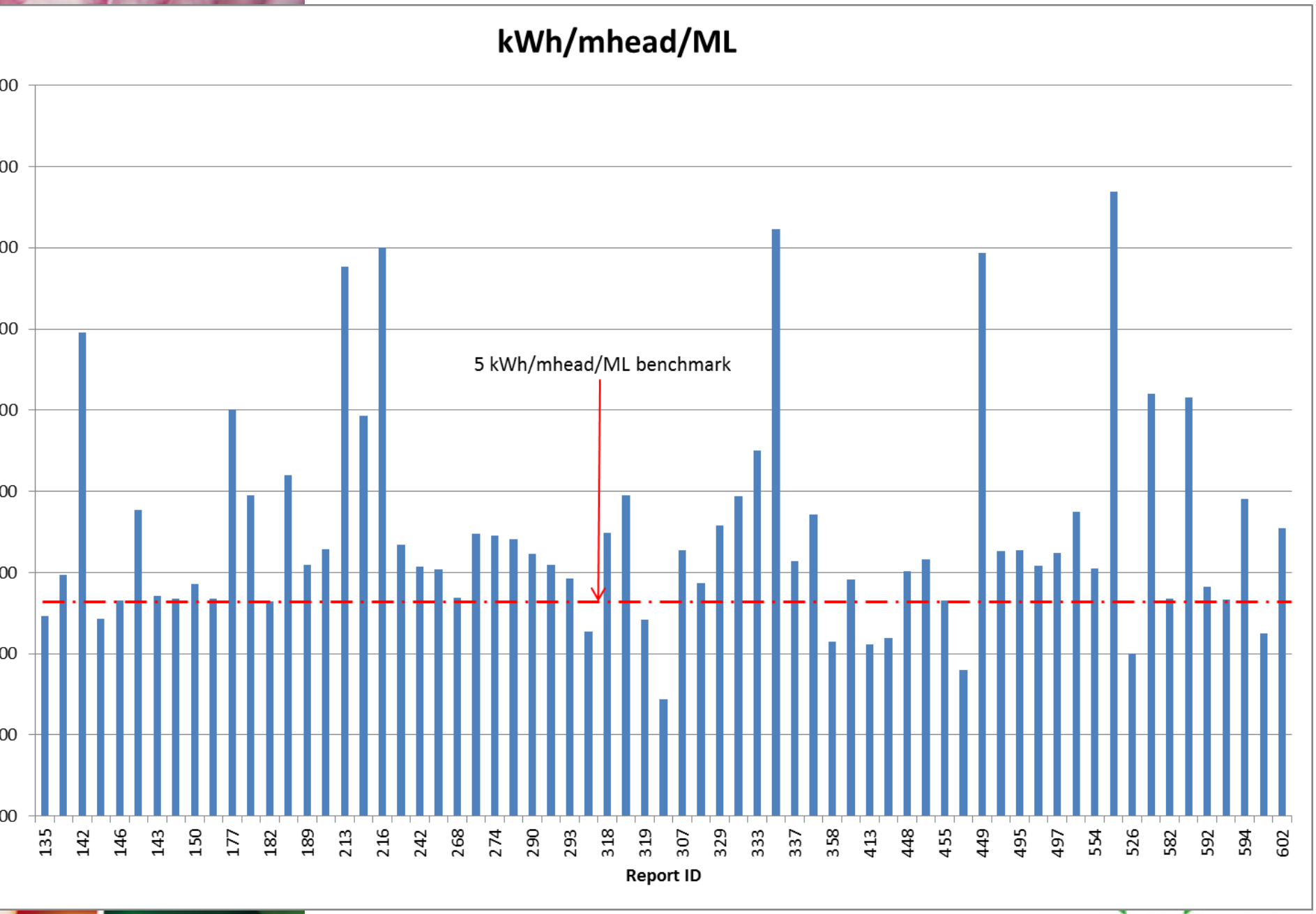
kWh/mhead/ML
5 kWh/mhead/ML benchmark
135
142
146
143
150
177
182
189
213
216
242
268
274
290
293
318
319
307
329
333
337
358
413
448
455
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497
554
526
582
592
594
602
Report ID

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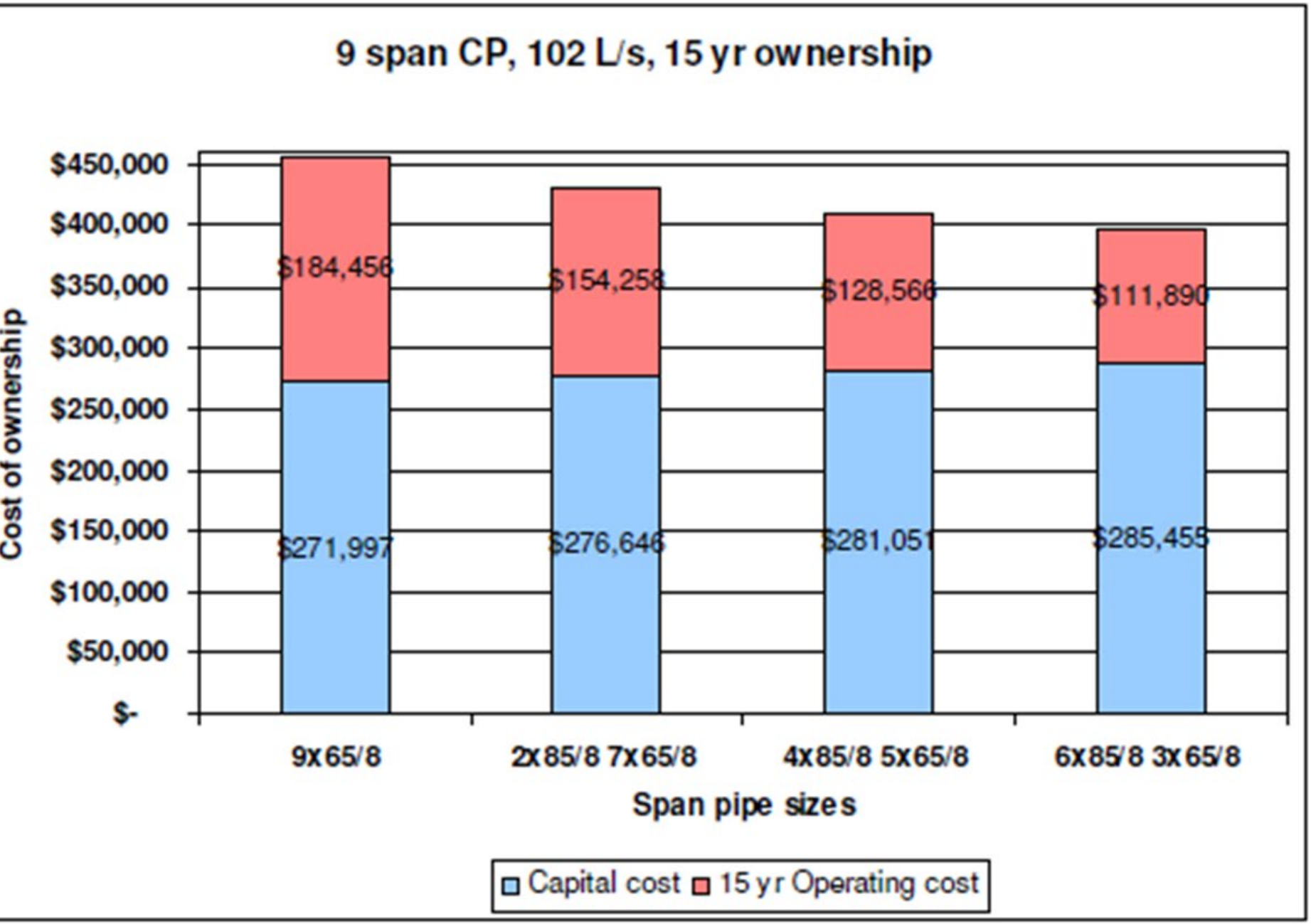
9 span CP, 102 L/s, 15 yr ownership
Cost of ownership
$450,000
$400,000
$350,000
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$-
$184,456
$154,258
$128,566
$111,890
$271,997
$276,646
$281,051
$285,455
9x65/8
2x85/8 7x65/8
4x85/8 5x65/8
6x85/8 3x65/8
Span pipe sizes
Capital cost
15 yr Operating cost

Costing systems

- A net margin calculator is on NSW DPI website http://www.agric.nsw.gov.au/reader/irrig-costing-systems.htm
- Use this for a quick check on the annual $ returns from operating an irrigation system
- uses partial budgeting
- two columns allows comparison of irrigation systems or changes
- Another calculator – http://econcalc.ncea.biz

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Irrigation Standards

- RWUE-IF Rural Irrigation System Design – Standards and Code of Practice (RISD-SCoP)

RURAL IRRIGATION SYSTEM DESIGN

STANDARDS & CODES OF PRACTICE

QUEENSLAND GOVERNMENT

IRRIGATION AUSTRALIA