

Efume[®]

- Traditional “Postharvest”
 - Worker & consumer exposure
 - Off-gassing
 - Residues
 - EPA “Biopesticide”
- Special “citrus use”
 - “Postharvest”, in-field
 - Less human & enviro impact

What do you need?



ARS studies the gas levels

| Section | Time (m) | | | | Ct Product |
|---------|---------------|--------------|--------------|--------------|--------------|
| | T15 | T30 | T45 | T60 | |
| Front | 3.17 | 14.68 | 8.01 | 6.11 | 7.23 |
| Mid Top | 31.25 | 17.03 | 9.91 | 8.23 | 15.58 |
| Mid Bot | 52.90 | 25.96 | 11.57 | 8.71 | 23.69 |
| Back | 51.19 | 26.06 | 13.01 | 9.92 | 23.80 |
| Average | 45.11 | 20.93 | 10.62 | 8.24 | 17.58 |
| | $x \pm 12.04$ | $x \pm 5.94$ | $x \pm 2.15$ | $x \pm 1.59$ | $x \pm 7.90$ |

(20% ethyl formate in CO₂)

Parlier 1/30/19 28 Bin



| Section | Time (m) | | | | Ct Product |
|---------|---------------|--------------|--------------|--------------|--------------|
| | T15 | T30 | T45 | T60 | |
| Front | 3.17 | 14.68 | 8.01 | 6.11 | 7.23 |
| Mid Top | 31.25 | 17.03 | 9.91 | 8.23 | 15.58 |
| Mid Bot | 52.90 | 25.96 | 11.57 | 8.71 | 23.69 |
| Back | 51.19 | 26.06 | 13.01 | 9.92 | 23.80 |
| Average | 45.11 | 20.93 | 10.62 | 8.24 | 17.58 |
| | $x \pm 12.04$ | $x \pm 5.94$ | $x \pm 2.15$ | $x \pm 1.59$ | $x \pm 7.90$ |

Washburn 2/20/19 24 Bin "curtain-side"



| Trial 2 | | | | |
|---------|--------------|--------------|---------------|--------------|
| Section | Time (m) | | | Ct Product |
| | T5 | T30 | T60 | |
| A R1 | 70.88 | 35.22 | 39.42 | 43.72 |
| B R1 | 56.89 | 18.70 | 16.74 | 26.98 |
| C R1 | 73.82 | 17.40 | 18.01 | 30.93 |
| Average | 67.20 | 23.77 | 24.72 | 33.88 |
| | $x \pm 9.05$ | $x \pm 9.94$ | $x \pm 12.74$ | $x \pm 8.75$ |

Washburn 2/20/19 24 Bin "reefer"



| Trial 3 | | | | |
|---------|--------------|--------------|--------------|--------------|
| Section | Time (m) | | | Ct Product |
| | T5 | T30 | T60 | |
| A R1 | 23.11 | 18.80 | 16.68 | 18.56 |
| B R1 | 33.80 | 23.28 | 22.11 | 24.65 |
| C R1 | 17.83 | 18.17 | 13.37 | 16.13 |
| Average | 24.91 | 20.08 | 17.39 | 19.78 |
| | $x \pm 8.14$ | $x \pm 2.79$ | $x \pm 4.42$ | $x \pm 4.39$ |

McFarland 3/5/19 48 Bin "flat bed"



| Flat Bed Trailer (48 Bins) | | | | |
|----------------------------|-----------------|-----------------|-----------------|-----------------|
| Section | Time (m) | | | Ct Product |
| | T5 | T30 | T60 | |
| A R1 | 32.10 | 12.89 | 0.00 | 13.93 |
| A R2 | 27.46 | 12.85 | 0.00 | 12.75 |
| Average | 29.78 | 12.87 | 0.00 | 13.34 |
| | <i>x ± 2.04</i> | <i>x ± 0.31</i> | <i>x ± 0.00</i> | <i>x ± 0.43</i> |
| B R1 | 52.21 | 17.82 | 4.20 | 21.22 |
| B R2 | 28.62 | 17.85 | 3.92 | 15.34 |
| Average | 40.41 | 17.83 | 4.06 | 18.28 |
| | <i>x ± 2.14</i> | <i>x ± 0.47</i> | <i>x ± 0.00</i> | <i>x ± 0.54</i> |
| C R1 | 46.69 | 14.51 | 3.33 | 18.32 |
| C R2 | 36.84 | 14.58 | 2.68 | 15.89 |
| Average | 41.76 | 14.54 | 3.00 | 17.11 |
| | <i>x ± 1.64</i> | <i>x ± 0.50</i> | <i>x ± 0.00</i> | <i>x ± 0.64</i> |

McFarland 3/5/19 50 Bin “High-low”



| High Low Trailer (50 bins) | | | | |
|----------------------------|--------------|--------------|--------------|--------------|
| Section | Time (m) | | | Ct Product |
| | T5 | T30 | T60 | |
| A R1 | 1.18 | 0.00 | 0.00 | 0.31 |
| B R1 | 0.00 | 0.00 | 0.00 | 0.00 |
| C R1 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average | 0.39 | 0.00 | 0.00 | 0.10 |
| | $x \pm 0.68$ | $x \pm 0.00$ | $x \pm 0.00$ | $x \pm 0.18$ |

Parlier Wildwood 3/22/19 No Sandbags



| Section | Time (m) | | | Ct Product |
|---------|--------------|--------------|--------------|--------------|
| | T10 | T32 | T60 | |
| A R1 | 26.46 | 5.06 | 0.00 | 10.09 |
| A R2 | 25.93 | 5.19 | 0.00 | 9.98 |
| A R3 | 24.67 | 5.37 | 0.00 | 9.68 |
| Average | 25.68 | 5.21 | 0.00 | 9.92 |
| | $x \pm 0.92$ | $x \pm 0.15$ | $x \pm 0.00$ | $x \pm 0.21$ |
| B R1 | 25.21 | 5.79 | 0.00 | 10.02 |
| B R2 | 26.10 | 5.00 | 0.00 | 9.95 |
| B R3 | 26.88 | 7.31 | 0.00 | 11.17 |
| Average | 26.06 | 6.03 | 0.00 | 10.38 |
| | $x \pm 0.84$ | $x \pm 1.17$ | $x \pm 0.00$ | $x \pm 0.68$ |