Three Tier Hop Drying

‘A Steep learning curve’ by Tom Spilsbury
Old System

- 4 kilns - capacity 2200kg-2500kg per day of dried hops
- 4 diesel burners
- Manual fill
- Manual unload
- Manual bale
- High Labour costs (5 people)
- Overdried hops in bottom third of kiln
- 7.5-9 hour drying time
New System - 3 tier kiln

- Wolf machine installation cost
  - £600,000 to £650,000
- Local Agricultural Engineer (NDS)
  - £180,000 including building to house kiln
Kiln Design

- Can be dismantled
- Fire proof insulation
- No heat loss through kiln walls
## Fuel and Labour Savings

<table>
<thead>
<tr>
<th></th>
<th>kg dry hops</th>
<th>L fuel used</th>
<th>L per kg used</th>
<th>Fuel cost per L</th>
<th>cost per kg</th>
<th>total to dry 30T</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>old kilns</td>
<td>2017</td>
<td>31900</td>
<td>19452</td>
<td>0.6098</td>
<td>£0.59</td>
<td>£0.36</td>
<td>£10,857</td>
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<tr>
<td>new kiln diesel</td>
<td>2018</td>
<td>30100</td>
<td>14685</td>
<td>0.4879</td>
<td>£0.58</td>
<td>£0.28</td>
<td>- £2,339 21.54%</td>
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<tr>
<td>new kiln Furness fuel</td>
<td>2018</td>
<td>30100</td>
<td>14685</td>
<td>0.4879</td>
<td>£0.51</td>
<td>£0.25</td>
<td>- £3,453 31.80%</td>
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<tr>
<td>labour saving</td>
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<td></td>
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<td>- £5,880</td>
</tr>
</tbody>
</table>

Labour savings: 2 men for 21-14hrs days = 588hrs = - £5,880

- £9,333
Benefits of 3 tier drying system

- Better fuel efficiency
- Use of Bio-mass heating justifiable
- Labour saving
- Higher consistency of moisture content throughout the kiln
  - NO overdried hops - maintains cone structure quality
  - NO cold patches in bales
- Shorter during time
  - 3-4 hour drying as opposed to 7.5-9.5 hours previously
- Earlier to bed!
Any Questions