# Three Tier Hop Drying

'A Steep learning curve' by Tom Spilsbury



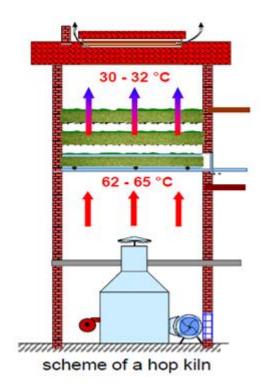
## Old System

- ▶ 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

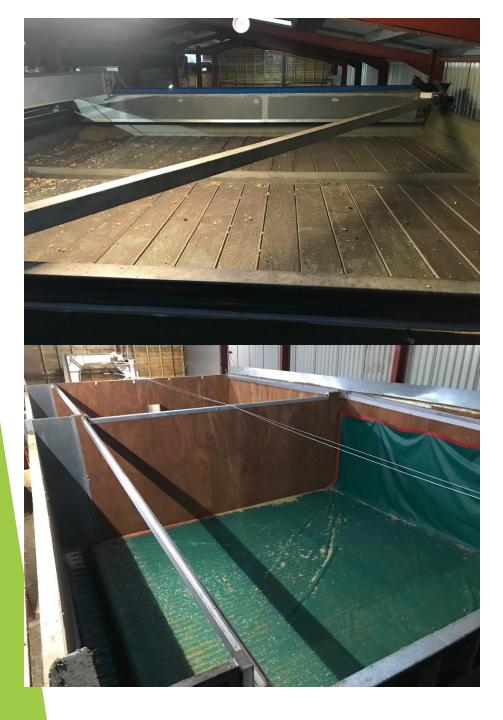
- Wolf machine installation cost
  - > £600,000 to £650,000
- Local Agricultural Engineer (NDS)
  - £180,000 including building to house kiln



#### Kiln Design

- Can be dismantled
- Fire proof insulation
- No heat loss through kiln walls













## Fuel and Labour Savings

old kilns	2017	kg dry hops	L fuel used	kg used	Fuel cost per L	t per kg	total to dry 30T		
Old Kill is	2017	31900	19402	0.0096	£0.59	20.3	7		
new kiln diesel	2018	30100	14685	0.4879	£0.58	£0.28	8 £8,518	- £2,339	- 21.54 %
new kiln Furness fuel	2018	30100	14685	0.4879	£0.51	£0.2	5 £7,404	- £3,453	- 31.80 %
labour saving						2 men for 21- 14hrs days =588hrs = - £5880			
								- £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**