

Shillingford Brewery: Some notes deduced from the Brewing Book of Mr Tom Skurray 1888 - 1889

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Tom Skurray kept careful notes of all the brewing activities including recipes, methods, costs and accounts of problems and their resolution. The brewing book covers the period from March 1886 until April 1889. The early part covers time spent at the Steam Brewery (Wootton Bassett) with an interlude at University College, London. The Shillingford Brewery is covered for the period 16 January 1888 to 30 March 1889, some 15 months. The United Breweries, Abingdon are mentioned on the last entry, having taken over Shillingford.

Mr Skurray would appear to have carried out his work in a conscientious and scientific manner with calculations undertaken to assess volumes of malt and/or wort to be added to obtain the correct strength brew. There is very little reference to other workers, although Mr Field (the owner) and Cherril, presumably an assistant, are mentioned once.

His library was comprehensive and included a first English edition of Louis Pasteur's book on fermentation. Skurray's knowledge shows with comments on yeast and examination with a microscope and identification of bacteria. He does how-

ever comment on 20 June 1888 that no laboratory has been fitted up as, if it had been, the bad malt responsible for turning beer sour, would have been detected. During this discussion when he is 'determined to stop beer going off' he is clearly not very happy with the set up blaming himself for poor cleanliness in the racking store:

I have never been sufficiently firm as to having more men consequently the work has been left undone and the result is only another proof of the false economy.

He suggests various cleansing arrangements, using phenol in drains and washing with CaOCl_2 . Sodium metabisulphite (KMS) is used in the brews but was forgotten on occasions. Comments relate to brewing from hand to mouth with a list of improvements which need to be carried out in the slack season. These include building round the Malt Mill, new hop back, cooler and refrigerator (comments made earlier suggested it was in very poor condition) and general cleaning and painting. The discussion concludes with him querying 'Will the new plan of treating casks be as effective as I hope?'

A man of action he reports on Friday 27 July 1888

I fancy that the brewery and premises are gradually getting cleaner and the men more careful. Up to the present the new way of treating casks is successful but further searching experiments are being made. Small alterations such as firings tubs, etc are in course of completion.

However all is not bad and he refers to 'capital beer' and 'splendid ale'. In January 1888 he 'made mistake in calculation should have crushed 9.5 Qrs' (of malt). The beer seemed alright as was the case some months later in June when he headed the page 'Mucked up brewing'. In this instance he states that

Weather very thundery ... Brewing was arranged for ale but had not sufficient room and made a kind of combination beer suitable for blending with XL or Stout. Weather being so treacherous ought not to have brewed but expected a rush which did not come.

Some problems occurred when men were asphaltting under the tun room and the fermentator stopped. On another occasion when carrying out an experimental brew with water from the new well (9 January 1889) a lamp fell into the liquor 'but it was some time before I could get the beastly thing out'. The brew was described

Yeast crop was capital and the beer seemed to drink full but at first the flavor was not good

but improved wonderfully and must be reckoned a successful (sic).

Yeast was of course a vital ingredient with about 30 lbs being put in a brew of 50 barrels (1800 gallons). It generally multiplies by up to 5 times, the surplus being sold (3/- per brew) whilst retaining enough to seed the next brew. If contamination sets in then a new strand is required and there are reference to yeast coming from Paines of Reading, Wells (presumably of Wallingford) and Godsell.

The beers

Although each brew was individual they were brewed under the following names given below in decreasing order of strength - (variations in terminology also given)

Double Stout
Brown Best
XXX Pale Ale (also stocked XXX Pale)
XX Ale
X Ale (also X Pale Ale)
XL (SS Beer on 1 occasion)
LL

Although the record is rather short a brewing pattern emerges for 1888.

The beer was brewed generally between 7 and 11 times per month, the peaks running from March to September with, only brews in July although this was the months when problems with the beer

going sour was recorded. October was rather low at six recorded brews but five pages were left blank - possibly brewed but not recorded although seems unlikely for Mr Skurray - more likely recorded on a loose leaf and not entered or he was absent.

On all but two occasions only a single type of beer was produced when the approximately 50 barrels was split in to two strengths.

The records for the brew included the quantities and type of malt, hops, sugar (initially only used in Double Stout) other additions e.g. yeast, use of sodium metabisulphite caramel (one reference only); the mashing process with timer, temperature water changes, sparging etc., resulting in the barrels brewed and finally racked. In this case the loss is up to about 10%. The mashing process is generally well recorded but gaps occur on the longer monitoring i.e. the full brewing time which may take five days or more. It was noted at times that the beer was sent out after as little as five days - presumably for conditioning in the pub.

Some 20 malts are used having general names such as pale, amber, black, foreign (not specific but French malt used at Steam Brewery) to specific names e.g. Forby, Ball Gill & Spencer, Dawson, Changlers, Danubian (foreign?) Birkett, Dodd, Ascur, Holman, Thomas, Lash, Gillman, Noake and Pittman. A special note was made that malt from Hills barley

at Warborough was used (cost 33/- qtr) on 18 April 1888, apparently with a good result in the Brown Best.

Eleven types of hop were recorded. Worcester was frequently used although expensive at 115/- per cwt. Kentish hops included Lackford, Knight (60/- /cwt); Smiths (80/-); Lansall (50/-); others include Lowe (84/-), Burgers, Piper Bingham, HE, and Barasian. The year of the hops is quoted generally being 1886 or 87, although some of 84 is recorded i.e. four years old. There is an occasional reference to the addition of hops to the racked barrel.

On 14 and 15 November the brews are headed as experimental although described as X ale and XXX ale respectively.

On both occasions 3 cwt of glucose was used for the first time although sugar was a regular ingredient of Double Stout. For the X ale 10lbs of HE (hop extract?) were used 'with Flint Stones' again for the first time, although for what purpose is not given. The brews were a success, glucose featuring in all subsequent brews (other than Double Stout when sugar was retained).

The period also saw the addition of Magnesium Sulphate and Calcium Sulphate at around about 17lbs of each per brew, although these were rather variable. The use of bisulphate carried on intermittently.

The age of the new brew had dawned.

Examples of the ingredients used and costs are given for the double Stout and X ale (pre glucose era!).

Some points of interest are for the Double Stout, in the calculations '¼ Sugar = 160lbs = 4 cwt' which is curious. Reference is also used to using 'R (Raw) Wort for yeast and a little Pasteur nourishment, rose splendidly.' The final attenuation is given as 8.0.

Double Stout, 27 March 1888
26.25 barrels brewed; 23 racked
i.e. 3.25 wasted

Malt

5.4 Qtr Pale @ 37/-
1.4 Qtr Amber
0.7 Qtr Black

14-18-0

Sugar

4 cwt @ 16/6d

3-3-0

Hops

20lb Worcester @ 1/-
22lb Lansall @ 7d
30lb Smith @ 7d

72lb = 8.5lb per qrs

2-16-5

Duty

8-17-6

Antiseptic

3-0

29-17-11

Credit

54 Bushells grain @ 6d

1-7-0

Yeast

2-0

28-8-11

Return of Wort

17-0

27-11-11

Cost per barrel

1-4-0

Value per barrel 1/6 gall

2-14-0

Gross profit per barrel

1-10-0

Gross Profit/Brew

34-10-0

The costs only relate to direct material costs, not heading, capital, labour, distribution etc. It is not clear whether the value is as sold from the brewery or as sold in pubs. The duty for the X ale refers to 1449 galls which equals 40.25 barrels which is less than the 46 which were racked. Elsewhere in the book the duty figures do not appear to tie up where mentioned, which is not often.

X ale, 21 February 1888

47.4 barrels brewed, 46.0 racked
1.4 wasted

Malt

10 Qtrs Pale @ 33/-
1 Gill & Spenser 32/-

18-2-0

Sugar

None

Hops

15lb Bavarian 86 @ 7d
15lb Bavarian 87 @ 7d
20lb Lansall 86 @ 7d
35lb Smith 87 @ 7d

88 = 8lb per qrs

2-19-6

Duty on 1449 gals

11-16-3

1-0

32-18-9

Credit

80 Bushells @ 6d

2-0-0

Yeast

3-0

29-15-9

Cost per barrel

13-0

Value

1-12-0

Gross profit per barrel

19-0

Gross Profit/Brew

43-14-0

In 1888 an approximate total of 4060 barrels of all types was brewed in 99 recorded brews, the total value of which was £8032-16-0. The gross profit ranged between about 15/- to £1-14-10 per barrel i.e. roughly giving a figure of £3700 to cover all other costs. Based on the selected figures the gross profit, per brew estimated at Double Stout £39-3;

Brown Best £45-15; XXX Ale £58-18; XX Ale £38-10; X Ale £39-8; LL £29-0. The handling charges will vary to some degree as the weaker brews have more barrels.

The following gives a breakdown of the number of brews, volume etc. for 1888. (Note 1 Barrel = 36 gallons).

	Lb/Barrel	Value/Gall	No. of brews	Racked vol. per brew barrels	Total vol.	% of total vol. brewed	Final gavity
Double Stout	26	1/6d	10	26	261	6.4	8.0
Best Brown	24	1/6d	6	30	183	4.5	
XXX Pale	21	1/6d	13	36	464	11	6
XX Pale	20	1/-	5	40	203	5	
X Pale	19	1/-	53	46	2,461	61	4/4.5
XL	15	10d	9	(43)	389	10	3
LL	14.5	8d	1	20	20	0.5	
Others	(19)	?	2	40	79	2	

The volume per brew is generally directly related to the strength i.e. the wort is boiled away to achieve clearer liquid i.e. higher 'Lb per barrel'. The gravity is given for typical brews where mentioned in the record.

The most popular beer was the X Pale ale which accounted for 53% of the brews and 61% of the total volume. Weaker beer only account for about 10%. Mild ale is not mentioned in the records. The profit margin per brew on the X ale is nearly £9 per brew better than the Double Stout.

On the basis of the above, Shillingford Brewery produced over 400 pints per day, although the records do not show where it was sold or what the drinkers thought of it. However, one thing seems clear, Tom Skurray was doing his best to produce consistent brews with somewhat less than ideal equipment although his use of glucose and more chemicals in the last months may have raised a few eyebrows of the discerning drinker.

The brewer's book is held by Wallingford Museum.

Extracts from Brewing Book of Tom Skurray

Covering periods from front cover

Steam Brewery Wootton Bassett	8 March 1886 - 5 September 1886	(6 months)
University College London	6 October 1886 - 30 March 1887	(6+ Months)
Steam Brewery, W.B.	1 May 1887 - 24 December 1887	(7+ Months)
Shillingford Brewery	16 January 1888 - 30 March 1889	(14 Months)
United Breweries, Abingdon	1 April 1889 -	

Following entries actually made:

1886

January	13 (14B.33G XXXX); 14 (18B.19G XX) 21 (17/25) 23, 28 (14/5)
February	4 (16½); 10 (14/2); 19 (18/8) 25
March	4 (13/39), 11, 17, 18, 25, 26, 31
April	7, 15, 16, 21, 29
May	5, 11, 12, 19, 25
June	1, 2, 8, 9, 15, 18, 22, 23, 29, 30
July	2, 5, 6, 7, 8, 10, 14, 15, 22, 23, 29, 30
August	3, 4, 10, Notes on Brewing from 1 to 60
September	28 Costs of brewing
October	
November	10
December	

1887

January, February, March, April	No Entries
May	5, 6, 12, 13 (Caramel) 19, 25, 26
June	3, 4, 9 (Experimental brew with Kendal Saline mixture) 17, 20 (Night)
Thursday	23, Jubilee 28, 30
July	4, 6, 8, 12, 13, 15, 18, 21, 22, 26, 29
August	2, 3, 5, 8, 12, 16, 19, 25
September	2, 6, 7, 15, 16, 20, 25, 28
October	5, 6, 11, Costs 19, 20, 27, 28 9 galls sent to Moalsford 11th
November	3, 9, 10, 17 (Xmas Beer) 23, 24, Double Stout, Cost 29 Xmas (Cost)
December	7, 8, 14, 15 20

1888

January	18	Pale Ale (22) 1st Brew 46½ B Racked (from 48.4B) (Beer sent out on 25 January)	
	19	XX Ale (20) 33.7 B	
	24	Brown Best (26) 29	Mistake in Cal?????? Men laying Asphalt under Tun Room
	25	X Pale Ale (7) 48	Problem with brew on analysis
February	1	X Ale (20) 44	Cost of hops
	2	XXX Pale Ale (22) 33	Cost of XXX Pale Ale
	7	X Pale Ale (18) 48	Cost
	14	Double Stout (26) 24	Not sweet or soft enough shall use more sugar + cost
	15	X Ale (20) 47.2	Cost price
	21	X Ale (20) 47	Bad brew - analysis. Cost
	22	XXX Pale Ale (22) 37.4	Good yeast; some 6B racked with hops and KMS. Cost.
	25	Mending refrigerator; V. bad cond.	
March	7	XL (17.5) 38.6, new way of mashing. New yeast from Pain's of Reading	
		- Strange smell.	Cost XL
		Wells yeast.	Cost X Ale.
	8	X Ale (19)'	Capital Ale'
	13	Brown Best (25) 29.5	
	14	X Ale (20) 48.5 racked 46.	Fermentation Cost
	17	XXX Pale Ale (22) 37.7	Cost
	20	X Pale (19) 31 + LL 14.5 20B	Cost
	22	Stock XXX Pale (23) 40.8	Cost Final 5.0

Varieties of Ingredients

<u>Malt</u>	<u>Hops</u>	<u>Yeast</u>	<u>Others + Chemicals</u>
Pale	Worcester 115/- cwt	Own Recycled	Sugar
Amber	Luckford (Kent)	Wells	Call2
Black	Barasian	Godsells	CaSO4
Forby 34/6	Burgess		B???????
Ball 29/6	Piper		KMS
G & S Gill & Spencer	Bingham		MgSO4
Dowson	HE		
Chandles	Knight (Kent) 60/-cwt		
Danubian	Smiths (Kent) 80/-cwt		
BM	Lansall (Kent) 50/-cwt		
Birkett	Lowe 84/		
Thomas			
Lush			
Gillman			
Noake			
Pittman			
'Foreign', Ascar, Holmans, Dodd			

Beers

XXX Pale Ale	Brown Best
X Ale	Double Stout
X Pale Ale	
XL	
LL	
Stock XXX Pale	