

CHANGES TO FARM TYPOLOGY: USE OF 2010 STANDARD OUTPUT COEFFICIENTS AND UPDATED STANDARD LABOUR COEFFICIENTS

Background

Farm typology is the system used to group farms with similar characteristics based on their type of output and economic size. Given the diversity of farm production structures and systems, such groupings allow more meaningful analysis of farm survey data.

Within the UK and the EU, classification of farm 'types' is based on the application of 'standard output' (SO) coefficients¹ for individual farm enterprises (e.g. per head of livestock and per hectare of crops). These coefficients have been updated within all Member States and will be used to classify farms from 2013 onwards. Given the threshold for inclusion within the Farm Business Survey² (FBS), any change to standard output coefficients has an impact on both the survey population as well as the classification of farms.

In the UK, farm size is measured using Standard Labour Requirements³ (SLR). Two amendments have been made to the coefficients. The first has been to re-assign maize from cereals to fodder crops and a coefficient has been introduced for miscanthus. These amendments have led to some minor movements between farm size groupings.

The new SO and SLR coefficients will be introduced for the 2013/14 FBS results. Previously published survey results for 2012/13 will be recalculated for comparability. This document illustrates the impact of these changes using the 2012/13 FBS dataset.

Changes to standard outputs

The Standard Output (SO) of an agricultural product is the average monetary value of the agricultural output per unit at farm-gate prices¹. In England, SOs are calculated separately for each NUTS1 region. Averages are taken over a five year period to reduce the impact of annual price fluctuations; those currently in use are averaged over the period 2005-2009 (referred to as 2007 SOs). Across the EU, there is a periodic⁴ recalculation of SOs. Standard outputs have now been recalculated within all Member States for the period 2008-2012 (referred to as 2010 SOs). The 2010 SO coefficients for England can be found in Annex A.

¹ The "**standard output**" (SO), of an agricultural product (crop or livestock) is the average monetary value of the agricultural output at farm-gate price. The SO excludes direct payments, value added tax and taxes on products. Member States calculate regional SO coefficients for each product as average values over the reference period. In England these are calculated for each NUTS1 region.

² The threshold for inclusion with the FBS in England is 25,000 euros of standard output.

³ The "**standard labour requirement**" (SLR) of a farm represents the normal labour requirement, in Full Time Equivalents, for all the enterprises on a farm under typical conditions. The SLR for a farm is calculated from standard coefficients applied to each enterprise on the farm. The standard coefficients represent the input of labour required per head of livestock or per hectare of crops for enterprises of average size and performance.

⁴ The central year for the 5 year average coincides with EC Farm Structure Survey years (2007, 2010, 2013, 2016).

Impact on FBS population

The coefficients for '2010' are generally higher than those for '2007', due to higher prices in the later period. This has led to a greater number of farm businesses having a total Standard Output of at least 25,000 euros and hence becoming part of the FBS population. For the 2012/13 FBS, 56,105 farm businesses were above the FBS threshold when using 2007 SOs. Using the new 2010 SOs, the population rises to 58,741 farm businesses.

Impact on FBS typology

The typology methodology⁵ means that any changes to the coefficients might impact on the classification of individual farms. Table 1 illustrates the net impact of the changes to farm type classification for the 2012/13 FBS population. A more detailed breakdown highlighting the flows between individual farm types can be found at Annex B. Just 2% (1,249) of those farm businesses above the FBS threshold using both sets of SOs are reclassified. The greatest movements are from general cropping to cereals (354 farms), from mixed (165) and dairy (132) to lowland grazing livestock farms. The number of grazing livestock farms has increased by 12% in total, driven by more businesses moving above the FBS threshold.

Table 1: Impact of coefficient change on farm types within 2012/13 FBS population

	No. of farms based on 2007 SO	<i>(plus)</i> Net Change in farm type	<i>(minus)</i> Now below threshold	<i>(plus)</i> Now above threshold	No. of farms based on 2010 SO
Cereals	13,591	324	0	391	14,306
General cropping	5,638	-408	3	140	5,367
Horticulture	3,390	-26	7	89	3,446
Pigs	1,336	-48	1	16	1,303
Poultry	1,357	10	1	14	1,380
Dairy	6,921	-182	0	10	6,749
Grazing livestock LFA*	6,179	24	2	485	6,687
Grazing livestock Lowland*	11,983	239	9	1,331	13,543
Mixed	5,710	67	1	184	5,960
Total	56,105	0	24	2,660	58,741

*excludes specialist horse businesses

Changes to standard labour requirements

In the UK, farm size is measured using Standard Labour Requirements (SLR). Standard coefficients are applied to each enterprise on the farm representing the input of labour required per head of livestock or per hectare of crops for enterprises of average size and performance. Two improvements have been made, summarised in Table 2. The coefficient for maize has been changed from that for cereals to stock feeding crops to better reflect the end use following new information from the June Survey. In addition, a new coefficient has been introduced for miscanthus.

⁵ A description of the typology methodology can be found at <https://www.gov.uk/farm-business-survey-technical-notes-and-guidance>

Table 2: Changes to SLR coefficients

	Old SLR coefficient	New SLR coefficient
Maize	20	6
Miscanthus	-	16

Table 3: Impact of coefficient change on farm size groups within 2012/13 FBS population*

	Number of farms based on 2007 SO and old SLRs	(plus) Net Change in farm size	(minus) Now below threshold	(plus) Now above threshold	Number of farms based on 2010 SO and new SLRs
Very small - spare time	5,305	121	13	1,292	6,705
Very small - part time	10,823	-39	10	1,300	12,074
Small	15,368	-18	0	67	15,417
Medium	8,697	8	1	1	8,706
Large	8,150	-7	0	0	8,143
Very large	7,762	-66	0	0	7,696
Total	56,105	0	24	2,660	58,741

*excludes specialist horse businesses

Impact on FBS results

The change in the methodology introduces a break in the series. Any longitudinal analysis covering the transition should make note of the change. Results for Farm Business Income (FBI) by farm type and size are shown in Tables 4 and 5 to provide an indication of the impact of the changes.

Table 4: Impact of typology change on 2012/13 Farm Business Income by farm type

	2007 SOs		2010 SOs*	
	Average FBI	95% confidence intervals	Average FBI	95% confidence intervals
Cereals	68,230	+/- 6,960	67,720	+/- 7,210
General cropping	91,540	+/- 16,380	86,160	+/- 16,820
Horticulture	30,130	+/- 9,990	25,830	+/- 10,970
Pigs	40,890	+/- 22,000	41,740	+/- 23,880
Poultry	94,170	+/- 44,410	90,210	+/- 43,140
Dairy	51,210	+/- 7,820	52,550	+/- 7,850
Grazing livestock LFA*	19,700	+/- 3,030	18,720	+/- 3,050
Grazing livestock Lowland*	16,270	+/- 3,490	16,130	+/- 3,430
Mixed	38,100	+/- 8,080	37,260	+/- 8,560
All farm businesses	46,640	+/- 3,120	44,870	+/- 3,110

*In addition 15 farms in the FBS sample have been re-assigned from horticulture to general cropping. This is due to a reallocation of field vegetables to general cropping when grown in rotation with other arable crops.

Table 5: Impact of typology change on 2012/13 Farm Business Income by farm size

	<i>2007 SOs</i>		<i>2010 SOs</i>	
	<i>Average FBI</i>	<i>95% confidence intervals</i>	<i>Average FBI</i>	<i>95% confidence intervals</i>
Very small - spare time	17,870	+/- 6,900	16,960	+/- 7,460
Very small - part time	19,120	+/- 3,670	18,180	+/- 3,580
Small	30,920	+/- 3,310	30,820	+/- 3,350
Medium	47,060	+/- 6,490	46,320	+/- 6,290
Large	59,650	+/- 7,020	59,100	+/- 6,980
Very large	121,230	+/- 17,360	121,960	+/- 18,300
All farm businesses	46,640	+/- 3,120	44,870	+/- 3,110

Farm Business Survey team
 Defra
 FBS.queries@defra.gsi.gov.uk

Annex A

		Robust farm type using 2010 Standard outputs									
		Cereals	General cropping	Hort-iculture	Pigs	Poultry	Dairy	Grazing livestock LFA	Grazing livestock Lowland	Mixed	
Robust farm type using 2007 Standard outputs	Cereals	13,497	38	1						55	13,591
	General cropping	354	5,150	14						117	5,635
	Hort-iculture		23	3,330						30	3,383
	Pigs				1,286					49	1,335
	Poultry					1,343				13	1,356
	Dairy						6,730	25	132	34	6,921
	Grazing livestock LFA						3	6,168		7	6,178
	Grazing livestock Lowland								11,915	58	11,973
	Mixed	64	16	12	1	23	6	9	165	5,413	5,709
	13,915	5,227	3,357	1,287	1,366	6,739	6,202	12,212	5,776		

Annex B

		Farm size using 2010 Standard outputs and updated SLRs						
		Very small - spare time	Very small - part time	Small	Medium	Large	Very large	
Robust farm type using 2007 Standard outputs and old SLRs	Very small - spare time	5,284	7	1				5,292
	Very small - part time	129	10,674	10				10,813
	Small		93	15,266	8			15,367
	Medium			73	8,620	4		8,697
	Large				77	8,069	4	8,150
	Very large					70	7,692	7,762
		5,413	10,774	15,350	8,705	8,143	7,696	

Annex C: 2010 Standard Output coefficients for England (euros per hectare or per head of livestock)

EC Farm Structure Survey Heading	FBS form id	June Survey id	Yorkshire and the Humber								London & South East	South West
			North East	North West	East Midlands	West Midlands	Eastern	London & South East	South West			
B_1_1_1	Common wheat and spelt	C(1 to 3)	A1	1442.05	1351.54	1442.05	1405.78	1402.57	1349.16	1433.69	1368.85	
B_1_1_3	Rye	C(31)	A6	1039.15	1039.15	1039.15	1039.15	1039.15	1039.15	1039.15	1039.15	
B_1_1_4	Barley	C(11 to 13)	A2	1111.42	1002.24	1111.42	1058.75	1147.90	994.44	999.58	1099.47	
B_1_1_5	Oats	C(21 to 23)	A4	945.40	945.40	945.40	908.89	948.69	908.89	908.89	948.69	
B_1_1_6	Grain maize	C(52)	Included in A5, A7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
B_1_1_99	Other cereals	C(5+41)	A5, A7	1036.99	1036.99	1036.99	1036.99	1036.99	1036.99	1036.99	1036.99	
B_1_2_1	Pulses - total	C(61 to 66)	A21, A22	913.93	913.93	913.93	913.93	913.93	913.93	913.93	913.93	
B_1_3	Potatoes	C(71 to 74)	A10, A11	4630.34	4630.34	4630.34	6959.12	5759.65	6959.12	6959.12	5759.65	
B_1_4	Sugar beet	C(81)	A12	2255.24	2255.24	2255.24	2255.24	2255.24	2255.24	2255.24	2255.24	
B_1_5	Fodder roots and brassicas	C(400)	A19	283.37	283.37	283.37	283.37	283.37	283.37	283.37	283.37	
B_1_6_2	Hops	C(101)	A28	9600.00	9600.00	9600.00	9600.00	9600.00	9600.00	9600.00	9600.00	
B_1_6_4	Rape and turnip	C(91+95 to 97)	A24, A25	1381.05	1381.05	1381.05	1350.87	1353.77	1350.87	1350.87	1353.765	
B_1_6_5	Sunflower	C(90+92)	-									
B_1_6_7	Linseed (oil flax)	C(94)	A27	638.32	638.32	638.32	638.32	638.32	638.32	638.32	638.32	
B_1_6_8	Other oil seed crops	C(98)	A20	638.32	638.32	638.32	638.32	638.32	638.32	638.32	638.32	
B_1_6_9	Flax	C(93)	-									
B_1_6_10	Hemp	C(100)	-	1106.62	1106.62	1106.62	1106.62	1106.62	1106.62	1106.62	1106.62	
B_1_6_12	Aromatic, medicinal and culinary plants	C(103)	A35, B15	1186.96	1186.96	1186.96	1186.96	1186.96	1186.96	1186.96	1186.96	
B_1_6_99	Industrial plants not mentioned elsewhere	C(99+107+89) {Types 1 to 4+6}	A34	706.37	706.37	706.37	706.37	706.37	706.37	706.37	706.37	
B_1_7_1_1	Fresh vegetables, melons, strawberries - outdoor - open field	C(131 to 181+217 to 218+231+233 to 235+250 to 264) {Types 1 to 3+6}	B5,B14, B21,C5	4139.58	4139.58	4139.58	4139.58	4139.58	4139.58	4139.58	4139.58	
B_1_7_1_2	Fresh vegetables, melons, strawberries - outdoor - market gardening	C(109) {Types 4}	B5,B14, B21,C5	12788.89	12788.89	12788.89	12788.89	12788.89	12788.89	12788.89	12788.89	
B_1_7_2	Fresh vegetables, melons, strawberries - under glass	C(109) {Types 5}	B5,B14, B21,C5	155308.58	155308.58	155308.58	155308.58	155308.58	155308.58	155308.58	155308.58	

Annex C: 2010 Standard Output coefficients for England (euros per hectare or per head of livestock) continued

EC Farm Structure Survey Heading	FBS form id	June Survey id	Region							London & South East	South West
			North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	Eastern	South East		
B_1_8_1	Flowers - outdoor C(110+265) {Types 1 to 4+6}	F1	51404.01	51404.01	51404.01	51404.01	51404.01	51404.01	51404.01	51404.01	51404.01
B_1_8_2	Flowers - under glass C(110) {Types 5}	D8, D13	348608.28	348608.28	348608.28	348608.28	348608.28	348608.28	348608.28	348608.28	348608.28
B_1_9_1	Forage plants - temporary grass C(402)	Included in G2	209.57	209.57	209.57	209.57	209.57	209.57	209.57	209.57	209.57
B_1_9_2_1	Forage plants - other green fodder - green maize C(415)	A23	366.41	366.41	366.41	366.41	366.41	366.41	366.41	366.41	366.41
B_1_9_2_2	Forage plants - other green fodder - leguminous plants -	A14, A18	283.37	283.37	283.37	283.37	283.37	283.37	283.37	283.37	283.37
B_1_9_2_9	Forage plants - other green fodder C(400+416+417)	-	283.37	283.37	283.37	283.37	283.37	283.37	283.37	283.37	283.37
B_1_10	Seeds and seedlings C(104+125+127)	R3	1556.23	1556.23	1556.23	1556.23	1556.23	1556.23	1556.23	1556.23	1556.23
B_1_11	Other arable land crops (C(89+106+107)+C(409))	A31	650.05	650.05	650.05	650.05	650.05	650.05	650.05	650.05	650.05
B_1_12_1	Fallow land, no subsidies -	A32	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
B_1_12_2	Fallow land subject to payment of subsidies with no economic use C(422 - 421)	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B_3_1	Permanent grassland and meadow - pasture and meadow C(403)	G1, G2	192.45	192.45	192.45	192.45	192.45	192.45	192.45	192.45	192.45
B_3_2	Permanent grassland and meadow - rough grazings C(404)	G5	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
B_4_1_1_1	Fruit species of temperate climate zones C(190 to 205+222+230+236 to 242+246 to 247) {Types 1 to 4}	C1, C2, C7, C11	9020.71	9020.71	9020.71	9020.71	9020.71	9020.71	9020.71	9020.71	9020.71
B_4_1_2	Berry species C(214+219+220+232+244)	C5, C6	29116.02	29116.02	29116.02	29116.02	29116.02	29116.02	29116.02	29116.02	29116.02
B_4_4	Vineyards - total C(223+245) {Types 1 to 4+6}	-	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44
B_4_4_2	Vineyards - other wines -	C10	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44	7306.44
B_4_5	Nurseries C(108) {Types 1 to 6}	D6, D10 (+ F2/10000 If D8+D13 = 0)	136332.9	136332.9	136332.9	136332.9	136332.9	136332.9	136332.9	136332.9	136332.9

Annex C: 2010 Standard Output coefficients for England (euros per hectare or per head of livestock) continued

EC Farm Structure Survey Heading	FBS form id	June Survey id	Yorkshire and the Humber							London & South East	South West
			North East	North West	East Midlands	West Midlands	Eastern	London & South East	South West		
B_4_6_1	Christmas trees	D6	14175.76	14175.76	14175.76	14175.76	14175.76	14175.76	14175.76	14175.76	
B_6_1	Mushrooms	C(126)[22]	414.57	414.57	414.57	414.57	414.57	414.57	414.57	414.57	
C_1	Equidae	E(65+84 to 86)	512.55	512.55	512.55	512.55	512.55	512.55	512.55	512.55	
C_2_1	Bovine under one year old - total	E(20+21)	From CTS	490.64	490.64	490.64	443.02	484.21	443.02	443.02	484.21
C_2_2	Bovine under 2 years - males	E(18)	From CTS	552.14	552.14	552.14	528.86	516.85	528.86	528.86	516.85
C_2_3	Bovine under 2 years - females	E(19)	From CTS	543.98	543.98	543.98	531.73	548.43	531.73	531.73	548.43
C_2_4	Bovine 2 years and older - males	E(3+10+16)	From CTS	556.66	556.66	556.66	544.51	546.955	544.51	544.51	546.96
C_2_5	Heifers, 2 years and older	E(13+14+17)	From CTS	588.43	588.43	588.43	526.95	534.71	526.95	526.95	534.71
C_2_6	Dairy cows	E(4)	From CTS	2548.74	2555.33	2548.74	2617.76	2605.99	2740.55	2688.13	2517.92
C_2_99	Bovine 2 years old and over - other cows	E(12)	From CTS	369.84	353.77	369.84	433.71	487.87	308.68	406.89	412.52
C_3_1_1	Sheep - breeding females	E(29+75)	M1, M4, M7	71.06	82.74	71.06	105.50	112.585	105.50	105.50	101.30
C_3_1_99	Sheep – others	E(28+32+34 to 35)	M9, M13, M14, M17	2.01	2.01	2.01	2.84	2.02	2.84	2.84	2.02
C_3_2	Goats	E(68)	P91	263.33	263.33	263.33	263.33	263.33	263.33	263.33	263.33
C_3_2_1	Goats - breeding females	E(69)	-	346.66	346.66	346.66	346.66	346.66	346.66	346.66	346.66
C_3_2_99	Goats - others	E(71))	-	47.31	47.31	47.31	47.31	47.31	47.31	47.31	47.31
C_4_1	Pigs - piglets under 20 kg	E(47)	L14	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.28
C_4_2	Pigs - breeding sows over 50 kg	E(43+50 to 51)	L1, L2, L3, L5	812.38	812.38	812.38	794.83	796.93	794.83	794.83*	796.93
C_4_99	Pigs - others	E(42+44+46)	L4, L9	169.27	169.27	169.27	168.70	168.73	168.70	168.70	168.73
C_5_1	Poultry – broilers	E(57 to 58)	N10	11.64	11.64	11.64	11.64	11.64	11.64	11.64	11.64
C_5_2	Laying hens	E(54 to 55)	N2, N3, N5, N6, N7	17.93	17.93	17.93	18.11	17.78	18.11	18.11	17.78
C_5_3_1	Turkeys	E(59)	N15	93.64	93.64	93.64	93.64	93.64	93.64	93.64	93.64
C_5_3_2	Ducks	E(60)	N13	53.78	53.78	53.78	53.78	53.78	53.78	53.78	53.785
C_5_3_3	Geese	E(60)	N14	52.01	52.01	52.01	52.01	52.01	52.01	52.01	52.01
C_5_3_4	Ostriches	-	-	-	-	-	-	-	-	-	-
C_5_3_99	Poultry – others	E(60)	N16	58.13	58.13	58.13	58.13	58.13	58.13	58.13	58.13
	Deer	E(67)	P10	263.33	263.33	263.33	263.33	263.33	263.33	263.33	263.33

*The coefficient for London for item C_4_2 is 797.83.