

# Rothamsted Repository Download

## A - Papers appearing in refereed journals

Evans, N., Butterworth, M. H., Baierl, A., Semenov, M. A., West, J. S., Barnes, A., Moran, D. and Fitt, B. D. L. 2011. Erratum: The impact of climate change on disease constraints on production of oilseed rape. *Food Security*. 3 (1), pp. 117-120.

The publisher's version can be accessed at:

- <https://dx.doi.org/10.1007/s12571-010-0058-3>

The output can be accessed at: <https://repository.rothamsted.ac.uk/item/8q820/erratum-the-impact-of-climate-change-on-disease-constraints-on-production-of-oilseed-rape>.

© 11 January 2011, Springer.

## Erratum: The impact of climate change on disease constraints on production of oilseed rape

Neal Evans · Michael H. Butterworth · Andreas Baierl ·  
Mikhail A. Semenov · Jon S. West · Andrew Barnes ·  
Dominic Moran · Bruce D. L. Fitt

Published online: 11 January 2011

© Springer Science+Business Media B.V. & International Society for Plant Pathology 2011

**Erratum to: Food Security (2010) 2:143–156**  
**DOI 10.1007/s12571-010-0058-3**

The authors would like to correct a series of errors printed in the above paper. Due to a mistake in a table of official figures with respect to land use in the UK, the figure used for the acreage of oilseed rape produced for Scotland should have been ‘35 780 ha’ and not ‘398 720 ha’ (Table 4). Thus data quoted in the “Results” section of this paper that include this erroneous data (i.e. any “Scottish data” or “total UK” data) are also erroneous by an order of magnitude. Data in the last three lines of the following tables should now read as follows.

Overall, this does not affect the main conclusions of the paper. However, the “Abstract” should now state that the value of the crop (if stem canker and light leaf spot were effectively controlled) was predicted to increase by £2.5 M in Scotland (rather than £28 M) by 2050 under a high emissions scenario and that under the same scenario, UK disease losses were predicted to increase by £30 M (rather than £50 M).

---

The online version of the original article can be found at <http://dx.doi.org/10.1007/s12571-010-0058-3>.

---

N. Evans (✉) · M. H. Butterworth · M. A. Semenov · J. S. West ·  
B. D. L. Fitt  
Rothamsted Research,  
Harpenden AL5 2JQ, UK  
e-mail: [neal.evans@bbsrc.ac.uk](mailto:neal.evans@bbsrc.ac.uk)

A. Baierl  
Department of Statistics and Decision Support Systems,  
University of Vienna,  
Universitaetsstrasse 5/9,  
1010 Vienna, Austria

A. Barnes · D. Moran  
Scottish Agricultural College,  
West Mains Road,  
Edinburgh EH9 3JG, UK

**Table 2** Effects of climate change on the output of winter oilseed rape (treated with fungicide), calculated by region. The area grown per region (2006) and the predicted regional output are given for the baseline (1960–1990), 2020LO (low CO<sub>2</sub> emissions), 2020HI (high emissions), 2050LO and 2050HI climate scenarios and presented in thousands of pounds (£000 s). The yield figures were calculated after interpolating the results from the oilseed rape yield predictions according to UK government region and then multiplied by an average price of £195.60 t<sup>-1</sup>

Region <sup>a</sup>	Value of [fungicide treated] oilseed rape crop (£000s)				
	Baseline	2020LO	2020HI	2050LO	2050HI
North East	14,098	13,168	14,536	14,646	14,812
North West	2,097	2,024	1,861	2,115	2,169
Yorkshire & Humberside	37,220	35,342	38,251	38,126	38,358
East Midlands	69,007	69,480	69,277	69,744	70,874
West Midlands	20,194	20,121	16,839	20,900	21,726
Eastern	63,885	63,854	63,661	65,792	66,907
London and South East	46,508	46,867	46,939	48,216	49,700
South West	26,742	26,831	26,873	27,570	28,538
England total	279,749	277,688	278,237	287,110	293,085
Scotland	22,038	23,086	23,600	24,182	24,567
UK total	301,787	300,774	301,837	311,292	317,652

<sup>a</sup> Government regions can be found at [http://www.statistics.gov.uk/geography/downloads/uk\\_gor\\_cty.pdf](http://www.statistics.gov.uk/geography/downloads/uk_gor_cty.pdf)

**Table 3** Effects of climate change on the losses from phoma stem canker and light leaf spot (for cultivars with average resistance) in winter oilseed rape crops not treated with fungicide. The values are given for the baseline (1960–1990), 2020LO (low CO<sub>2</sub> emissions), 2020HI (high emissions), 2050LO and 2050HI climate scenarios and presented in thousands of pounds (£000 s). The figures were calculated after interpolating the results from the stem canker and the light leaf spot yield loss predictions according to UK government region and then multiplied by an average price of £195.60 t<sup>-1</sup>

Value of losses caused by phoma stem canker and light leaf spot (£000s) <sup>b</sup>					
Region <sup>a</sup>	Baseline	2020LO	2020HI	2050LO	2050HI
North East	3,431	3,526	3,934	4,208	4,630
North West	520	533	501	602	676
Yorkshire & Humberside	7,804	8,118	9,074	9,661	10,874
East Midlands	15,116	16,869	17,567	18,871	21,748
West Midlands	5,038	5,539	4,716	6,244	7,308
Eastern	14,481	16,179	16,582	18,454	21,359
London and South East	12,388	13,540	13,874	15,381	17,882
South West	7,910	8,198	8,337	8,996	10,191
England total	66,690	72,502	74,584	82,417	94,668
Scotland	7,109	7,663	7,901	10,240	9,067
UK total	73,890	80,165	82,485	92,657	103,735

<sup>a</sup> Government regions can be found at [http://www.statistics.gov.uk/geography/downloads/uk\\_gor\\_cty.pdf](http://www.statistics.gov.uk/geography/downloads/uk_gor_cty.pdf)

<sup>b</sup> The stem canker and light leaf spot loss predictions depend on the crop yield predictions in Table 2

**Table 4** Effects of climate change on the yield of untreated oilseed rape after phoma stem canker and light leaf spot losses, calculated by region. The area grown per region (2006) and the predicted total regional yield are given for the baseline (1960–1990) scenario. The total regional yield as a percentage of the baseline scenario is given for the 2020LO (low CO<sub>2</sub> emissions), 2020HI (high emissions), 2050LO and 2050HI climate scenarios. The figures were calculated after interpolating the results from the treated oilseed rape yield predictions, the stem canker yield loss predictions and the light leaf spot loss predictions according to UK government region

Region <sup>a</sup>	Area of oilseed rape grown (ha) <sup>b</sup>	Baseline total yield (t)	Yield (% of baseline yield)			
			2020LO	2020HI	2050LO	2050HI
North East	22,787	72,649	90.4	99.4	97.9	95.5
North West	3,601	10,769	94.5	86.2	96.0	94.7
Yorkshire & Humberside	61,068	189,125	92.6	99.2	96.8	93.4
East Midlands	113,479	342,630	97.6	96.0	94.4	91.2
West Midlands	34,419	97,510	96.2	80.0	96.7	95.1
Eastern	103,488	309,496	96.5	95.3	95.8	92.2
London and South East	79,063	219,128	97.7	96.9	96.2	93.3
South West	44,858	127,461	98.9	98.4	98.6	97.4
England total	462,764	1,368,770	96.3	95.6	96.1	93.1
Scotland	35,780	76,324	103.3	105.2	93.4	103.8
UK total	498,544	1,445,094	99.4	99.8	94.9	97.8

<sup>a</sup> Government regions can be found at [http://www.statistics.gov.uk/geography/downloads/uk\\_gor\\_cty.pdf](http://www.statistics.gov.uk/geography/downloads/uk_gor_cty.pdf)

<sup>b</sup> Area of winter oilseed rape grown in each region in harvest year 2006 ([www.defra.gov.uk](http://www.defra.gov.uk))

**Table 5** Effects of climate change on the output of untreated winter oilseed rape (for cultivars with average resistance) after phoma stem canker and light leaf spot losses, calculated by region. The area grown per region (2006) and the predicted regional output are given for the baseline (1960–1990), 2020LO (low emissions), 2020HI (high emissions), 2050LO and 2050HI climate scenarios and presented in thousands of pounds (£000 s). The figures were calculated after interpolating the results from the treated oilseed rape yield predictions, the stem canker yield loss predictions and the light leaf spot loss predictions according to UK government region and then multiplied by an average price of £195.60 t<sup>-1</sup>

Region <sup>a</sup>	Value of [untreated] oilseed rape crop (£000s)				
	Baseline	2020LO	2020HI	2050LO	2050HI
North East	10,666	9,642	10,602	10,438	10,182
North West	1,576	1,490	1,359	1,513	1,493
Yorkshire & Humberside	29,415	27,224	29,177	28,466	27,484
East Midlands	53,891	52,612	51,711	50,873	49,126
West Midlands	15,155	14,582	12,123	14,656	14,418
Eastern	49,404	47,676	47,080	47,338	45,548
London and South East	34,120	33,327	33,065	32,835	31,818
South West	18,831	18,633	18,536	18,574	18,348
England total	213,059	205,186	203,653	204,693	198,417
Scotland	14,929	15,423	15,699	13,942	15,500
UK total	227,988	220,609	219,352	218,635	213,917

<sup>a</sup> Government regions can be found at [http://www.statistics.gov.uk/geography/downloads/uk\\_gor\\_cty.pdf](http://www.statistics.gov.uk/geography/downloads/uk_gor_cty.pdf)

<sup>b</sup> Area of winter oilseed rape grown in each region in harvest year 2006 ([www.defra.gov.uk](http://www.defra.gov.uk))

**Table 6** Present value of the effects of climate change (£000s)

Present value of the effects of climate change (£000 s)

Region <sup>a</sup>	Scenario	2020LO	2020HI	2050LO	2050HI
North East		-678	-43	-66	-140
North West		-57	-143	-18	-24
Yorkshire & Humberside		-1,450	-158	-274	-558
East Midlands		-846	-1,443	-872	-1,377
West Midlands		-379	-2,007	-144	-213
Eastern		-1,144	-1,538	-597	-1,114
London and South East		-525	-698	-371	-665
South West		-131	-195	-74	-140
England total		-5,210	-6,225	-2,417	-4,231
Scotland		327	510	-285	165
UK total		-4,883	-5,715	-2,703	-4,066

<sup>a</sup> Government regions can be found at [http://www.statistics.gov.uk/geography/downloads/uk\\_gor\\_cty.pdf](http://www.statistics.gov.uk/geography/downloads/uk_gor_cty.pdf)