**Emission factors for PM for the year 2000 (IIASA)[1].**

**From crops**

| Crop types | Greece | | | | GB | |
| --- | --- | --- | --- | --- | --- | --- |
| | **PM10** | **PM10** | **PM10** | **PM2.5[2]** | **PM10** | **PM2.5** |
| | land preparation | harvest | total | | total | |
| | kg/ha/a | kg/ha/a | kg/ha/a | kg/ha/a | kg/ha/a | kg/ha/a |
| **Barley** | 4.15 | 1.95 | 6.10 | 1.35 | 6.945 | 1.136 |
| **Cotton irrigated** | 4.43 | 3.78 | 8.21 | 1.82 | . | . |
| **Cherry trees** | 0.08 | 0.09 | 0.17 | 0.04 | . | . |
| **Fallow land** | 1.35 | 0.00 | 1.35 | 0.30 | . | . |
| **Fodder crops** | 4.48 | 0.00 | 4.48 | 1.00 | 3.192 | 0.240 |
| **Fruits** | . | . | . | . | 0.000 | 0.000 |
| **Maize irrigated** | 5.25 | 1.88 | 7.13 | 1.58 | . | . |
| **Maize non-irrigated** | . | . | . | . | 2.820 | 0.220 |
| **Oat** | 4.15 | 2.60 | 6.75 | 1.50 | 9.145 | 1.624 |
| **Oilseed** | . | . | . | . | 6.945 | 1.136 |
| **Olive groves** | 0.08 | 0.09 | 0.17 | 0.04 | . | . |
| **Other cereals** | 4.15 | 1.23 | 5.38 | 1.19 | 6.945 | 1.136 |
| **Pastures** | 0.00 | 0.00 | 0.00 | 0.00 | 0.000 | 0.000 |
| **Potatoes** | 25.56 | 1.91 | 27.46 | 6.10 | 2.870 | 0.231 |
| **Pomefruits** | 0.08 | 0.09 | 0.17 | 0.04 | . | . |
| **Pulses** | . | . | . | . | 6.945 | 1.136 |
| **Rice** | 22.42 | 1.88 | 24.30 | 5.39 | . | . |
| **Rough grazing** | | | | | 0.000 | 0.000 |
| **Rye** | 4.15 | 1.23 | 5.38 | 1.19 | . | . |
| **Soya** | 8.63 | 1.88 | 10.51 | 2.33 | . | . |
| **Stonefruits** | 0.08 | 0.09 | 0.17 | 0.04 | . | . |
| **Sugarbeets** | 25.56 | 1.88 | 27.44 | 6.09 | 2.820 | 0.220 |
| **Vegetables** | . | . | . | . | 2.820 | 0.220 |
| **Vineyards** | 1.68 | 0.19 | 1.87 | 0.42 | . | . |
| **Wheat** | 4.15 | 2.25 | 6.40 | 1.42 | 9.480 | 1.698 |

[1]IIASA: GAINS model, http://www.iiasa.ac.at/web-apps/apd/gains/EU/index.login?logout=1
[2]There are no PM2.5 emission factors differentiating between land operations and harvesting.

**From animals (Hinz, 2007)[1]**

| Animal types | Greece | | GB | |
| --- | --- | --- | --- | --- |
| | **PM10** | **PM2.5** | **PM10** | **PM2.5** |
| | kg/head | kg/head | kg/head | kg/head |
| **Beef** | 0.236 | 0.053 | 0.216 | 0.048 |
| **Cows** | 0.217 | 0.048 | 0.216 | 0.048 |
| **Horses** | 0 | 0 | 0 | 0 |
| **Laying hens** | 0.047 | 0.011 | 0.047 | 0.011 |
| **Other poultry** | 0.047 | 0.011 | 0.047 | 0.011 |
| **Pigs** | 0.438 | 0.078 | 0.423 | 0.075 |
| **Sheep, goats** | 0 | 0 | 0 | 0 |

[1]Hinz, Torsten; van der Hoek, Klaas: Particle Emissions from Plant Production. Presentation at the TFEIP meeting. Dublin, October 2007.

**Emission factors for NH[3] from animals for year 2000 (IIASA)[1].**

| Animal types | Greece NH$_3$ kg/head | GB NH$_3$ kg/head |
|---|---|---|
| Beef | 12.06 | 8.833 |
| Cows | 18.10 | 30.320 |
| Horses | 8.05 | 12.750 |
| Laying hens | 0.36 | 0.459 |
| Other poultry | 0.30 | 0.168 |
| Sheep, goats | 0.88 | 0.499 |
| Pigs | 5.10 | 5.957 |

[1]IIASA: GAINS model, http://www.iiasa.ac.at/web-apps/apd/gains/EU/index.login?logout=1

**NH[3] emission factors from fertiliser use for year 2000 (IIASA)[1].**

| | Greece kg NH$_3$/kg N | GB kg NH$_3$/kg N |
|---|---|---|
| Mineral fertiliser use | 0.05 | 0.032 |
| NH$_3$ from biological N fixation (legumes) | 0.01 | 0.01 |

[1]IIASA: GAINS model, http://www.iiasa.ac.at/web-apps/apd/gains/EU/index.login?logout=1

**To estimate NH[3] emissions from mineral fertiliser use, the N application rate must be available.**

**Average mineral N application rates (from fertilizers) for various crops (FertiStat, IFA)[1].**

| Crops | Greece kg/ha | GB kg/ha |
|---|---|---|
| Barley | 75 | 118 |
| Cotton | 75 | . |
| Fodder | 43.4 | 103.7 |
| Fruits | 57 | 50 |
| Maize | 190 | 150 |
| Oat | | 118 |
| Oilseed | | 185 |
| Olive groves | 200 | . |
| Other cereals | 85 | 100 |
| Pastures[2] | 50 | 95 |
| Potatoes | 200 | 155 |
| Pulses[2] | | 250 |
| Rice | 100 | . |
| Rough grazing[2] | | 20 |
| Soya | 200 | . |
| Sugarbeets | 140 | 100 |
| Vegetables | | 125 |
| Vineyards | 60 | . |
| Wheat | 70 | 183 |

[1]FAO Fertilizer Use Statistics.
http://www.fao.org/ag/agl/fertistat/fst_fubc_en.asp
[2]Biological N fixation.