|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S1. LCI and data source for model with and without on-site potting media reuse via steaming** | | | | | |
| **No on-site reuse of potting media** | | | | | |
| **Functional Unit (FU)** | **kg flower** | | **100g THC** | | **EcoInvent Process** |
| **Treatment** | **H-** | **L+** | **H-** | **L+** |
| water use (L/FU) | 3.77E+03 | 7.46E+03 | 3.71E+03 | 6.17E+03 | Irrigation, sprinkler | irrigation | Cutoff, U - CA-QC |
| Land use (m2/FU) | 1.46E+02 | 2.88E+02 | 1.43E+02 | 2.38E+02 | NA |
| Peat (cm3/FU) | 2.18E+05 | 4.32E+05 | 2.15E+05 | 3.57E+05 | Peat moss production, horticultural use | peat moss | Cutoff, U - CA-QC |
| Limestone (g/FU) | 1.30E+03 | 2.57E+03 | 1.28E+03 | 2.13E+03 | Limestone production, crushed, washed | limestone, crushed, washed | Cutoff, U - CA-QC |
| Perlite (g/FU) | 1.23E+04 | 2.43E+04 | 1.21E+04 | 2.01E+04 | Market for expanded perlite | expanded perlite | Cutoff, U - GLO |
| Plastic pots (g/FU) | 2.73E+02 | 5.40E+02 | 2.68E+02 | 4.47E+02 | Market for polyethylene, low density, granulate | polyethylene, low density, granulate | Cutoff, U - GLO |
| Plastic wrap (g/FU) | 1.73E+02 | 3.43E+02 | 1.71E+02 | 2.84E+02 | Market for polyethylene, low density, granulate | polyethylene, low density, granulate | Cutoff, U - GLO |
| Nylon (g/FU) | 2.40E+01 | 4.74E+01 | 2.36E+01 | 3.93E+01 | Nylon 6 production | nylon 6 | Cutoff, U |
| NPK fert (g /FU) | 2.34E+03 | 1.27E+03 | 2.30E+03 | 1.05E+03 | Market for NPK (15-15-15) fertiliser | NPK (15-15-15) fertiliser | Cutoff, U - RNA |
| KCl fert (g /FU) | 0.00E+00 | 2.97E+02 | 0.00E+00 | 2.46E+02 | Potassium mining and benefication | potassium chloride | Cutoff, U - CA-SK |
| Waste (g/FU) | 2.39E+05 | 4.64E+05 | 2.35E+05 | 3.84E+05 | Market for process-specific burdens, sanitary landfill | process-specific burdens, sanitary landfill | Cutoff, U - RoW |
| Seedlings (#/FU) | 2.60E+01 | 5.14E+01 | 2.56E+01 | 4.26E+01 | Tomato seedling production, in unheated greenhouse, for planting | tomato seedling, for planting | Cutoff, U - RoW |
| Srying kWh/FU | 1.18E+02 | 1.18E+02 | 1.16E+02 | 9.78E+01 | Electricity voltage transformation from medium to low voltage | electricity, low voltage | Cutoff, U - CA-QC |
| 50 year life shed (m2\*a/FU) | 1.00E-02 | 1.00E-02 | 1.00E-02 | 1.00E-02 | Market for shed | shed | Cutoff, U - GLO |
| g N2O to air (1% total N) | 3.06E+00 | 1.65E+00 | 3.01E+00 | 1.37E+00 | ID = 20185046-64bb-4c09-a8e7-e8a9e144ca98 |
| **Functional Unit (FU)** | **kg flower** | | **100g THC** | | **EcoInvent Process** |
| **Treatment** | **H-** | **L+** | **H-** | **L+** |
| g NOx to air (21% of N2O) | 6.40E-01 | 3.50E-01 | 6.30E-01 | 2.90E-01 | ID = c1b91234-6f24-417b-8309-46111d09c457 |
| carbon fixation (50% of dry mass) | 1.12E+03 | 9.16E+02 | 1.10E+03 | 7.58E+02 | ID 7ae371aa-8532-11e0-9d78-0800200c9a66 |
| g NH4 to air (0.2% total N) | 1.22E+01 | 6.62E+00 | 1.20E+01 | 5.48E+00 | ID = 87883a4e-1e3e-4c9d-90c0-f1bea36f8014 |
| Phosphate to water (12% total P) | 3.67E+01 | 1.99E+01 | 3.61E+01 | 1.64E+01 | ID = c8791f3c-3c4a-4278-91c0-483797d14da2 |
| g N-Nitrate to water (1% total N) | 3.06E+00 | 1.65E+00 | 3.01E+00 | 1.37E+00 | ID = 5189de76-6bbb-44ba-8c42-5714f1b4371f |
| Tractor (kg/FU) | 9.00E-05 | 1.80E-04 | 9.00E-05 | 1.50E-04 | Market for tractor, 4-wheel, agricultural | tractor, 4-wheel, agricultural | Cutoff, U - GLO |
| Diesel (MJ/FU) | 1.60E-01 | 3.20E-01 | 1.60E-01 | 2.60E-01 | diesel, burned in agricultural machinery | diesel, burned in agricultural machinery | Cutoff, U - GLO |
| Steamer (kg/FU) | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | Market for agricultural machinery, unspecified | agricultural machinery, unspecified | Cutoff, U - GLO |
| Total t\*km (light vehicule) | 3.54E+01 | 6.93E+01 | 3.48E+01 | 5.74E+01 | Transport, freight, light commercial vehicle | transport, freight, light commercial vehicle | Cutoff, U |
| Total t\*km (train) | 2.57E+00 | 2.26E+00 | 2.53E+00 | 1.87E+00 | Market for transport, freight train | transport, freight train | Cutoff, U |
| Total t\*km (boat) | 5.52E+00 | 1.09E+01 | 5.43E+00 | 9.04E+00 | Transport, freight, sea, container ship | transport, freight, sea, container ship | Cutoff, U |
| Molding (g/FU) | 2.75E+02 | 5.43E+02 | 2.70E+02 | 4.49E+02 | Injection moulding | injection moulding | Cutoff, U |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Functional Unit (FU)** | **kg flower** | | **100g THC** | | **EcoInvent Process** |
| **Treatment** | **H-** | **L+** | **H-** | **L+** |
| Water use (L/FU) | 3.77E+03 | 7.46E+03 | 3.71E+03 | 6.17E+03 | Irrigation, sprinkler | irrigation | Cutoff, U - CA-QC |
| Land use (m2/FU) | 1.46E+02 | 2.88E+02 | 1.43E+02 | 2.38E+02 |  |
| Peat (cm3/FU) | 2.18E+04 | 4.32E+04 | 2.15E+04 | 3.57E+04 | Peat moss production, horticultural use | peat moss | Cutoff, U - CA-QC |
| Limestone (g/FU) | 1.30E+02 | 2.57E+02 | 1.28E+02 | 2.13E+02 | Limestone production, crushed, washed | limestone, crushed, washed | Cutoff, U - CA-QC |
| Perlite (g/FU) | 1.23E+03 | 2.43E+03 | 1.21E+03 | 2.01E+03 | Market for expanded perlite | expanded perlite | Cutoff, U - GLO |
| Plastic pots (g/FU) | 2.73E+02 | 5.40E+02 | 2.68E+02 | 4.47E+02 | Market for polyethylene, low density, granulate | polyethylene, low density, granulate | Cutoff, U - GLO |
| Plastic wrap (g/FU) | 1.73E+01 | 3.43E+01 | 1.71E+01 | 2.84E+01 | Market for polyethylene, low density, granulate | polyethylene, low density, granulate | Cutoff, U - GLO |
| Nylon (g/FU) | 2.40E+01 | 4.74E+01 | 2.36E+01 | 3.93E+01 | Nylon 6 production | nylon 6 | Cutoff, U |
| NPK fert (g /FU) | 2.34E+03 | 1.27E+03 | 2.30E+03 | 1.05E+03 | Market for NPK (15-15-15) fertiliser | NPK (15-15-15) fertiliser | Cutoff, U - RNA |
| KCl fert (g /FU) | 0.00E+00 | 2.97E+02 | 0.00E+00 | 2.46E+02 | Potassium mining and benefication | potassium chloride | Cutoff, U - CA-SK |
| Waste (g/FU) | 2.99E+04 | 5.06E+04 | 2.94E+04 | 4.19E+04 | Market for process-specific burdens, sanitary landfill | process-specific burdens, sanitary landfill | Cutoff, U - RoW |
| Seedlings (#/FU) | 2.60E+01 | 5.14E+01 | 2.56E+01 | 4.26E+01 | Tomato seedling production, in unheated greenhouse, for planting | tomato seedling, for planting | Cutoff, U - RoW |
| Drying kWh/FU | 1.18E+02 | 1.18E+02 | 1.16E+02 | 9.78E+01 | Electricity voltage transformation from medium to low voltage | electricity, low voltage | Cutoff, U - CA-QC |
| 50 year life shed (m2\*a/FU) | 1.00E-02 | 1.00E-02 | 1.00E-02 | 1.00E-02 | Market for shed | shed | Cutoff, U - GLO |
| g N2O to air (1% total N) | 3.06E+00 | 1.65E+00 | 3.01E+00 | 1.37E+00 | ID = 20185046-64bb-4c09-a8e7-e8a9e144ca98 |
| g Nox to air (21% of N2O) | 6.40E-01 | 3.50E-01 | 6.30E-01 | 2.90E-01 | ID = c1b91234-6f24-417b-8309-46111d09c457 |
| **Functional Unit (FU)** | **kg flower** | | **100g THC** | | **EcoInvent Process** |
| **Treatment** | **H-** | **L+** | **H-** | **L+** |
| Carbon fixation (50% of dry mass) | 1.12E+03 | 9.16E+02 | 1.10E+03 | 7.58E+02 | ID 7ae371aa-8532-11e0-9d78-0800200c9a66 |
| g NH4 to air (0.2% total N) | 1.22E+01 | 6.62E+00 | 1.20E+01 | 5.48E+00 | ID = 87883a4e-1e3e-4c9d-90c0-f1bea36f8014 |
| phosphate to water | 3.67E+01 | 1.99E+01 | 3.61E+01 | 1.64E+01 | ID = c8791f3c-3c4a-4278-91c0-483797d14da2 |
| g N-Nitrate to | 3.06E+00 | 1.65E+00 | 3.01E+00 | 1.37E+00 | ID = 5189de76-6bbb-44ba-8c42-5714f1b4371f |
| Tractor (kg/FU) | 9.00E-05 | 1.80E-04 | 9.00E-05 | 1.50E-04 | Market for tractor, 4-wheel, agricultural | tractor, 4-wheel, agricultural | Cutoff, U - GLO |
| Diesel (MJ/FU) | 2.93E+02 | 5.80E+02 | 2.88E+02 | 4.80E+02 | Diesel, burned in agricultural machinery | diesel, burned in agricultural machinery | Cutoff, U - GLO |
| Steamer (kg/FU) | 8.00E-02 | 1.60E-01 | 8.00E-02 | 1.30E-01 | Market for agricultural machinery, unspecified | agricultural machinery, unspecified | Cutoff, U - GLO |
| Total t\*km (light vehicule) | 4.11E+00 | 7.37E+00 | 4.05E+00 | 6.10E+00 | Transport, freight, light commercial vehicle | transport, freight, light commercial vehicle | Cutoff, U |
| Total t\*km (train) | 2.57E+00 | 2.26E+00 | 2.53E+00 | 1.87E+00 | Market for transport, freight train | transport, freight train | Cutoff, U |
| Total t\*km (boat) | 5.52E+00 | 1.09E+01 | 5.43E+00 | 9.04E+00 | Transport, freight, sea, container ship | transport, freight, sea, container ship | Cutoff, U |
| Molding (g/FU) | 2.75E+02 | 5.43E+02 | 2.70E+02 | 4.49E+02 | Injection moulding | injection moulding | Cutoff, U |

**Table S2. Nutrient content measured in potting media used.** Data in bold are the ones presented in the text

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | ph |  | CEC |  | organic matter | N |  | P | K | Mg | Ca | S | Zn | Mn | Fe | Cu | B | Na | NO3 |
| Year |  |  |  | meq/100g |  | % | |  | ppm | | | | | | | | | | | |
| 2020 |  | 6.2 |  | 17.3 |  | 59.2 | 0.49 |  | 55 | 228 | 237 | 2039 | 112 | 1.7 | 7 | 45 | 1.2 | 1.9 | 80 | 10 |
| 2021 |  | 5.4 |  | 16.4 |  | **62.8** | **0.92** |  | 79 | 308 | 289 | 2257 | **279** | 2.7 | 8 | 59 | 1 | 0.4 | 83 | 49 |
| 2022 |  | 5.5 |  | 18.2 |  | 55.9 | 0.8 |  | 72 | 281 | 291 | 2715 | 191 | 5.6 | 11 | 84 | 1.3 | 0.4 | 71 | 79 |
| Average |  | 5.7 |  | 17.3 |  | 59.3 | 0.7 |  | 68.7 | 272.3 | 272.3 | 2337.0 | 194.0 | 3.3 | 8.7 | 62.7 | 1.2 | 0.9 | 78.0 | 46.0 |
| S.D. |  | 0.4 |  | 0.9 |  | 3.5 | 0.2 |  | 12.3 | 40.7 | 30.6 | 345.0 | 83.5 | 2.0 | 2.1 | 19.8 | 0.2 | 0.9 | 6.2 | 34.6 |
| RSD (%) |  | 7.6 |  | 5.2 |  | 5.8 | 30.1 |  | 18.0 | 14.9 | 11.2 | 14.8 | 43.1 | 60.8 | 24.0 | 31.5 | 13.1 | 96.2 | 8.0 | 75.2 |

**Table S3. Main processes contribution to global warming potential of outdoor cannabis plant with or without on-site potting media reuse at varying fertilizer treatment.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **GWP FU: 100g THC, on-site reuse of potting media** | **H-** | |  | **GWP, FU 100g THC, without on-site reuse of potting media** | **H-** | | |  | **L+** | |
| **Process** | **Contribution [%]** | **Total result [kg CO2-Eq]** |  | **Process** | **Contribution [%]** | **Total result [kg CO2-Eq]** |  | | **Contribution [%]** | **Total result [kg CO2-Eq]** |
| Full outdoor production | 100.0 | 52.65 |  | Full outdoor production | 100.0 | 60.75 |  | | 100.00 | 91.68 |
| Outdoor drying of fresh cannabis flower | 100.0 | 52.65 |  | Outdoor drying of fresh cannabis flower | 100.0 | 60.75 |  | | 100.00 | 91.68 |
| Outdoor growing of fresh cannabis flower | 89.7 | 47.23 |  | Outdoor growing of fresh cannabis flower | 91.1 | 55.33 |  | | 95.00 | 87.11 |
| Outdoor tractor and steamer production and use | 68.2 | 35.93 |  | Outdoor Horticultural practice | 70.6 | 42.92 |  | | 77.90 | 71.43 |
| Diesel, burned in agricultural machinery | 67.5 | 35.53 |  | Peat moss production, horticultural use | 45.0 | 27.32 |  | | 49.60 | 45.47 |
| market for agricultural machinery, unspecified | 0.8 | 0.40 |  | Expanded perlite production | 23.3 | 14.13 |  | | 25.70 | 23.52 |
| Market for tractor, 4-wheel, agricultural | 0.0 | 0.00 |  | Polyethylene production, low density, granulate | 1.8 | 1.07 |  | | 1.93 | 1.77 |
| Outdoor Horticultural practice | 9.9 | 5.24 |  | Market for nylon 6 | nylon 6 | Cutoff, U - RER | 0.4 | 0.22 |  | | 0.40 | 0.37 |
| Peat moss production, horticultural use | 5.2 | 2.73 |  | Irrigation, sprinkler | irrigation | Cutoff, U - CA-QC | 0.3 | 0.18 |  | | 0.32 | 0.29 |
| Expanded perlite production | 2.7 | 1.41 |  | Limestone production, crushed, washed | 0.0 | 0.00 |  | | 0.01 | 0.01 |
| polyethylene production, low density, granulate | 1.3 | 0.69 |  | Transport and molding | 10.2 | 6.18 |  | | 11.00 | 10.06 |
| Market for nylon 6 | nylon 6 | Cutoff, U - RER | 0.4 | 0.22 |  | market for transport, freight, lorry 16-32 metric ton | 9.6 | 5.85 |  | | 10.50 | 9.65 |
| Irrigation, sprinkler | irrigation | Cutoff, U - CA-QC | 0.3 | 0.18 |  | Transport, freight train, diesel | 0.2 | 0.14 |  | | 0.12 | 0.11 |
| Limestone production, crushed, washed | 0.0 | 0.00 |  | Injection moulding | injection moulding | 0.2 | 0.14 |  | | 0.25 | 0.23 |
| Outdoor fertilizing | 7.5 | 3.93 |  | Transport, freight, sea, container ship | 0.1 | 0.05 |  | | 0.09 | 0.08 |
| NPK (15-15-15) fertiliser production | 5.8 | 3.04 |  | Outdoor fertilizing | 6.5 | 3.93 |  | | 2.01 | 1.84 |
| tomato seedling production, in unheated greenhouse, | 1.9 | 1.01 |  | NPK (15-15-15) fertiliser production | 5.0 | 3.04 |  | | 1.51 | 1.38 |
|  |  |  |  |  |  |  |  | |  |  |
| **Process** | **Contribution [%]** | **Total result [kg CO2-Eq]** |  | **Process** | **Contribution [%]** | **Total result [kg CO2-Eq]** |  | | **Contribution [%]** | **Total result [kg CO2-Eq]** |
| Transport and molding | 1.8 | 0.96 |  | Potassium mining and benefication | potassium chloride | NA | NA |  | | 0.05 | 0.05 |
| market for process-specific burdens, sanitary landfill | 0.3 | 0.16 |  | Market for process-specific burdens, sanitary landfill | 2.1 | 1.26 |  | | 2.25 | 2.06 |
| Market for electricity, low voltage | 5.7 | 3.00 |  | Tomato seedling production, in unheated greenhouse, | 1.7 | 1.01 |  | | 1.84 | 1.68 |
| Market for shed | shed | | 4.6 | 2.43 |  | Outdoor tractor and steamer production and use | 0.0 | 0.02 |  | | 0.04 | 0.03 |
|  |  |  |  | Market for electricity, low voltage | electricity, low voltage | 4.9 | 3.00 |  | | 2.75 | 2.52 |
|  |  |  |  | Market for shed | shed | Cutoff, U - GLO | 4.0 | 2.43 |  | | 2.23 | 2.04 |
|  |  |  |  |  |  |  |  | |  |  |

**Table S4. Main processes contribution to fossil and metal depletion, eutrophication and acidification of outdoor cannabis plant with or without on-site potting media reuse**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Fossil depletion, FU: 100g THC, on-site reuse of potting media** | **H-** | |  | **Fossil depletion, FU 100g THC, without on-site reuse of potting media** | **H-** | |  | **L+** | |
| **Process** | **Contribution [%]** | **Total result [kg oil-Eq]** |  | **Process** | **Contribution [%]** | **Total result [kg oil-Eq]** |  | **Contribution [%]** | **Total result [kg oil-Eq]** |
| Full outdoor production | 1.00E+02 | 1.45E+01 |  | Full outdoor production | 1.00E+02 | 9.04E+00 |  | 1.00E+02 | 1.33E+01 |
| Outdoor drying of fresh cannabis flower | 1.00E+02 | 1.45E+01 |  | Outdoor drying of fresh cannabis flower | 1.00E+02 | 9.04E+00 |  | 1.00E+02 | 1.33E+01 |
| Outdoor growing of fresh cannabis flower | 9.43E+01 | 1.36E+01 |  | Outdoor growing of fresh cannabis flower | 9.08E+01 | 8.21E+00 |  | 9.47E+01 | 1.26E+01 |
| Outdoor tractor and steamer production and use | 7.83E+01 | 1.13E+01 |  | Outdoor Horticultural practice | 5.18E+01 | 4.68E+00 |  | 5.87E+01 | 7.78E+00 |
| Diesel, burned in agricultural machinery | | 7.75E+01 | 1.12E+01 |  | Expanded perlite production | 3.95E+01 | 3.57E+00 |  | 4.47E+01 | 5.94E+00 |
| Market for agricultural machinery, unspecified | | 7.50E-01 | 1.08E-01 |  | Polyethylene production, low density, granulate | 9.39E+00 | 8.48E-01 |  | 1.06E+01 | 1.41E+00 |
| Market for tractor, 4-wheel, agricultural | 0.00E+00 | 2.24E-04 |  | Peat moss production, horticultural use | 1.44E+00 | 1.31E-01 |  | 1.64E+00 | 2.20E-01 |
| Outdoor Horticultural practice | 7.26E+00 | 1.05E+00 |  | Market for nylon 6 | nylon 6 | Cutoff, U - RER | 7.80E-01 | 7.06E-02 |  | 8.90E-01 | 1.20E-01 |
| Outdoor fertilizing | 5.83E+00 | 8.44E-01 |  | irrigation, sprinkler | irrigation | Cutoff, U - CA-QC | 6.60E-01 | 5.95E-02 |  | 7.50E-01 | 1.00E-01 |
| Transport and molding | 2.45E+00 | 3.55E-01 |  | Limestone production, crushed, washed | 2.00E-02 | 1.50E-03 |  | 2.00E-02 | 0.00E+00 |
| Market for process-specific burdens, sanitary landfill | 3.50E-01 | 5.13E-02 |  | Transport and molding | 2.50E+01 | 2.25E+00 |  | 2.77E+01 | 3.68E+00 |
| Tomato seedling production, in unheated greenhouse, | 1.10E-01 | 1.53E-02 |  | Outdoor fertilizing | 9.34E+00 | 8.44E-01 |  | 3.03E+00 | 4.00E-01 |
| Market for shed | shed | Cutoff, U - GLO | 3.43E+00 | 0.49709 |  | Market for process-specific burdens, sanitary landfill | 4.53E+00 | 4.10E-01 |  | 5.05E+00 | 6.70E-01 |
| Market for electricity, low voltage | 2.30E+00 | 3.33E-01 |  | Tomato seedling production, in unheated greenhouse | 1.70E-01 | 1.53E-02 |  | 1.90E-01 | 3.00E-02 |
|  |  |  |  | Outdoor tractor and steamer production and use | 7.00E-02 | 6.40E-03 |  | 8.00E-02 | 1.00E-02 |
|  |  |  |  | Market for shed | shed | Cutoff, U - GLO | 5.50E+00 | 4.97E-01 |  | 3.16E+00 | 4.20E-01 |
|  |  |  |  | Market for electricity, low voltage | | 3.68E+00 | 3.33E-01 |  | 2.11E+00 | 2.80E-01 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Freshwater eutrophication potential, FU: 100g THC, on-site reuse of potting media** | **H-** | |  | **Freshwater eutrophication potential, FU 100g THC, without on-site reuse of potting media** | **H-** | |  | **L+** | |
| **Process** | **Contribution [%]** | **Total result [kg P-Eq]** | | **Process** | **Contribution [%]** | **Total result [kg P-Eq]** | | **Contribution [%]** | **Total result [kg P-Eq]** |
| Full outdoor production | 1.00E+02 | 2.00E-02 |  | Full outdoor production | 1.00E+02 | 1.90E-02 |  | 1.00E+02 | 1.50E-02 |
| Outdoor drying of fresh cannabis flower | 1.00E+02 | 2.00E-02 |  | Outdoor drying of fresh cannabis flower | 1.00E+02 | 1.90E-02 |  | 1.00E+02 | 1.50E-02 |
| Outdoor growing of fresh cannabis flower | 9.40E+01 | 1.88E-02 |  | Outdoor growing of fresh cannabis flower | 9.36E+01 | 1.80E-02 |  | 9.33E+01 | 1.40E-02 |
| Outdoor fertilizing | 6.22E+01 | 1.24E-02 |  | Outdoor fertilizing | 6.64E+01 | 1.20E-02 |  | 3.77E+01 | 6.00E-03 |
| Outdoor tractor and steamer production and use | 2.80E+01 | 5.60E-03 |  | Outdoor Horticultural practice | 2.36E+01 | 4.00E-03 |  | 4.86E+01 | 7.00E-03 |
| Outdoor Horticultural practice | 3.16E+00 | 6.32E-04 |  | Transport and molding | 2.57E+00 | 0.00E+00 |  | 5.13E+00 | 1.00E-03 |
| Transport and molding | 3.90E-01 | 7.88E-05 |  | Market for process-specific burdens, sanitary landfill | 8.20E-01 | 0.00E+00 |  | 1.65E+00 | 0.00E+00 |
| Market for process-specific burdens, sanitary landfill | 1.00E-01 | 1.92E-05 |  | Tomato seedling production, in unheated greenhouse | 1.00E-01 | 0.00E+00 |  | 2.00E-01 | 0.00E+00 |
| Tomato seedling production, in unheated greenhouse, for planting | 9.00E-02 | 1.85E-05 |  | Outdoor tractor and steamer production and use | 2.00E-02 | 0.00E+00 |  | 4.00E-02 | 0.00E+00 |
| Market for shed | shed | Cutoff, U - GLO | 3.94E+00 | 7.87E-04 |  | Market for shed | shed | Cutoff, U - GLO | 4.21E+00 | 1.00E-03 |  | 4.38E+00 | 1.00E-03 |
| Market for electricity, low voltage | 2.08E+00 | 4.17E-04 |  | Market for electricity, low voltage | 2.23E+00 | 0.00E+00 |  | 2.32E+00 | 0.00E+00 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Marine eutrophication potential, FU: 100g THC, on-site reuse of potting media** | **H-** | |  | **Marine eutrophication potential, FU 100g THC, without on-site reuse of potting media** | **H-** | |  | **L+** | |
| **Process** | **Contribution [%]** | **Total result [kg N-Eq]** |  | **Process** | **Contribution [%]** | **Total result [kg N-Eq]** |  | **Contribution [%]** | **Total result [kg N-Eq]** |
| Full outdoor production | 1.00E+02 | 1.92E-02 |  | Full outdoor production | 1.00E+02 | 9.30E-03 |  | 1.00E+02 | 1.01E-02 |
| Outdoor drying of fresh cannabis flower | 1.00E+02 | 1.92E-02 |  | Outdoor drying of fresh cannabis flower | 1.00E+02 | 9.30E-03 |  | 1.00E+02 | 1.01E-02 |
| Outdoor growing of fresh cannabis flower | 9.22E+01 | 1.77E-02 |  | Outdoor growing of fresh cannabis flower | 8.39E+01 | 7.80E-03 |  | 8.74E+01 | 8.81E-03 |
| Outdoor tractor and steamer production and use | 7.02E+01 | 1.35E-02 |  | Outdoor fertilizing | 3.68E+01 | 3.40E-03 |  | 1.57E+01 | 1.58E-03 |
| Diesel, burned in agricultural machinery | 6.97E+01 | 1.34E-02 |  | Outdoor Horticultural practice | 3.45E+01 | 3.20E-03 |  | 5.32E+01 | 5.36E-03 |
| Market for agricultural machinery, unspecified | 4.10E-01 | 7.96E-05 |  | Expanded perlite production | expanded perlite | 2.99E+01 | 2.80E-03 |  | 4.61E+01 | 4.64E-03 |
| Market for tractor, 4-wheel, agricultural | 0.00E+00 | 1.46E-07 |  | Polyethylene production, low density, granulate | 1.82E+00 | 1.69E-04 |  | 2.80E+00 | 2.83E-04 |
| Outdoor fertilizing | 1.79E+01 | 3.43E-03 |  | Peat moss production, horticultural use | 1.44E+00 | 1.34E-04 |  | 2.22E+00 | 2.24E-04 |
| Outdoor Horticultural practice | 2.75E+00 | 5.28E-04 |  | Market for nylon 6 | nylon 6 | Cutoff, U - RER | 8.80E-01 | 8.18E-05 |  | 1.36E+00 | 1.37E-04 |
| Transport and molding | 9.60E-01 | 1.84E-04 |  | Irrigation, sprinkler | irrigation | Cutoff, U - CA-QC | 4.60E-01 | 4.28E-05 |  | 7.10E-01 | 7.19E-05 |
| Market for process-specific burdens, sanitary landfill | 3.40E-01 | 6.59E-05 |  | Limestone production, crushed, washed | 3.00E-02 | 2.79E-06 |  | 4.00E-02 | 4.26E-06 |
| Tomato seedling production, in unheated greenhouse | 7.00E-02 | 1.40E-05 |  | Transport and molding | 6.73E+00 | 6.26E-04 |  | 9.66E+00 | 9.73E-04 |
| Market for shed | shed | Cutoff, U - GLO | 5.85E+00 | 1.12E-03 |  | Market for process-specific burdens, sanitary landfill | 5.64E+00 | 5.25E-04 |  | 8.55E+00 | 8.61E-04 |
| Market for electricity, low voltage | 2.00E+00 | 3.84E-04 |  | Tomato seedling production, in unheated greenhouse | 1.50E-01 | 1.40E-05 |  | 2.30E-01 | 2.33E-05 |
|  |  |  |  | Outdoor tractor and steamer production and use | 8.00E-02 | 7.44E-06 |  | 1.20E-01 | 1.23E-05 |
|  |  |  |  | Market for shed | shed | Cutoff, U - GLO | 1.20E+01 | 1.12E-03 |  | 9.38E+00 | 9.45E-04 |
|  |  |  |  | Market for electricity, low voltage | 4.11E+00 | 3.82E-04 |  | 3.20E+00 | 3.23E-04 |

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| **Terrestrial acidificat ion, FU: 100g THC, on-site reuse of potting media** | **H-** | |  | **Terrestrial acidification, FU 100g THC, without on-site reuse of potting media** | **H-** | |  | **L+** | |
| **Process** | **Contribution [%]** | **Total result [kg SO2-Eq]** |  | **Process** | **Contribution [%]** | **Total result [kg SO2-Eq]** |  | **Contribution [%]** | **Total result [kg SO2-Eq]** |
| Full outdoor production | 1.00E+02 | 3.16E-01 |  | Full outdoor production | 1.00E+02 | 1.82E-01 |  | 1.00E+02 | 2.33E-01 |
| Outdoor drying of fresh cannabis flower | 1.00E+02 | 3.16E-01 |  | Outdoor drying of fresh cannabis flower | 1.00E+02 | 1.82E-01 |  | 1.00E+02 | 2.33E-01 |
| Outdoor growing of fresh cannabis flower | 9.40E+01 | 2.97E-01 |  | Outdoor growing of fresh cannabis flower | 8.96E+01 | 1.63E-01 |  | 9.32E+01 | 2.17E-01 |
| Outdoor tractor and steamer production and use | 7.45E+01 | 2.35E-01 |  | Outdoor Horticultural practice | 5.17E+01 | 9.38E-02 |  | 6.71E+01 | 1.56E-01 |
| Diesel, burned in agricultural machinery | 7.40E+01 | 2.34E-01 |  | Expanded perlite production | expanded perlite | 4.75E+01 | 8.61E-02 |  | 6.16E+01 | 1.43E-01 |
| Market for agricultural machinery, unspecified | 5.10E-01 | 1.61E-03 |  | Polyethylene production, low density, granulate | 1.98E+00 | 3.60E-03 |  | 2.57E+00 | 5.98E-03 |
| Market for tractor, 4-wheel, agricultural | 0.00E+00 | 3.48E-06 |  | Peat moss production, horticultural use | 1.32E+00 | 2.40E-03 |  | 1.71E+00 | 3.99E-03 |
| Outdoor fertilizing | 1.37E+01 | 4.34E-02 |  | Irrigation, sprinkler | irrigation | Cutoff, U - CA-QC | 5.50E-01 | 1.00E-03 |  | 7.20E-01 | 1.67E-03 |
| Outdoor Horticultural practice | 4.07E+00 | 1.29E-02 |  | Market for nylon 6 | nylon 6 | Cutoff, U - RER | 3.60E-01 | 6.53E-04 |  | 4.70E-01 | 1.09E-03 |
| Transport and molding | 1.34E+00 | 4.25E-03 |  | Limestone production, crushed, washed | 2.00E-02 | 3.63E-05 |  | 3.00E-02 | 7.30E-05 |
| Market for process-specific burdens, sanitary landfill | 3.60E-01 | 1.12E-03 |  | Outdoor fertilizing | 2.39E+01 | 4.34E-02 |  | 8.60E+00 | 2.00E-02 |
| Tomato seedling production, in unheated greenhouse | 7.00E-02 | 2.33E-04 |  | Transport and molding | 8.89E+00 | 1.61E-02 |  | 1.10E+01 | 2.56E-02 |
| Market for shed | shed | Cutoff, U - GLO | 3.41E+00 | 1.08E-02 |  | Market for process-specific burdens, sanitary landfill | 4.95E+00 | 8.98E-03 |  | 6.30E+00 | 1.47E-02 |
| Market for electricity, low voltage | 2.56E+00 | 8.08E-03 |  | Tomato seedling production, in unheated greenhouse | 1.30E-01 | 2.36E-04 |  | 1.70E-01 | 3.89E-04 |
|  |  |  |  | Outdoor tractor and steamer production and use | 7.00E-02 | 1.27E-04 |  | 9.00E-02 | 2.16E-04 |
|  |  |  |  | Market for shed | shed | Cutoff, U - GLO | 5.94E+00 | 1.08E-02 |  | 3.90E+00 | 9.07E-03 |
|  |  |  |  | Market for electricity, low voltage | 4.45E+00 | 8.10E-03 |  | 2.92E+00 | 6.81E-03 |
|  |  |  |  |  |  |  |  |  |  |
| **Metal depletion, FU: 100g THC, on-site reuse of potting media** | **H-** | |  | **Metal depletion, FU 100g THC, without on-site reuse of potting media** | **H-** | |  | **L+** | |
| **Process** | **Contribution [%]** | **Total result [kg Fe-Eq]** |  | **Process** | **Contribution [%]** | **Total result [kg Fe-Eq]** |  | **Contribution [%]** | **Total result [kg Fe-Eq]** |
| Full outdoor production | 1.00E+02 | 3.29E+00 |  | Full outdoor production | 1.00E+02 | 1.41E+00 |  | 1.00E+02 | 1.54E+00 |
| Outdoor drying of fresh cannabis flower | 1.00E+02 | 3.29E+00 |  | Outdoor drying of fresh cannabis flower | 1.00E+02 | 1.41E+00 |  | 1.00E+02 | 1.54E+00 |
| Outdoor growing of fresh cannabis flower | 7.77E+01 | 2.56E+00 |  | Outdoor growing of fresh cannabis flower | 4.80E+01 | 6.77E-01 |  | 5.99E+01 | 9.25E-01 |
| Outdoor tractor and steamer production and use | 6.89E+01 | 2.27E+00 |  | Outdoor Horticultural practice | 2.48E+01 | 3.50E-01 |  | 3.77E+01 | 5.82E-01 |
| Diesel, burned in agricultural machinery | 6.60E+01 | 2.17E+00 |  | Outdoor fertilizing | 1.18E+01 | 1.66E-01 |  | 5.61E+00 | 8.66E-02 |
| Market for agricultural machinery, unspecified | 2.93E+00 | 9.66E-02 |  | Transport and molding | 9.51E+00 | 1.34E-01 |  | 1.38E+01 | 2.12E-01 |
| Market for tractor, 4-wheel, agricultural | 0.00E+00 | 1.61E-04 |  | Market for process-specific burdens, sanitary landfill | 1.71E+00 | 2.41E-02 |  | 2.55E+00 | 3.94E-02 |
| Outdoor fertilizing | 5.05E+00 | 1.66E-01 |  | Outdoor tractor and steamer production and use | 1.00E-01 | 1.40E-03 |  | 1.40E-01 | 2.23E-03 |
| Outdoor Horticultural practice | 2.82E+00 | 9.27E-02 |  | Tomato seedling production, in unheated greenhouse | 9.00E-02 | 1.30E-03 |  | 1.40E-01 | 2.12E-03 |
| Transport and molding | 8.30E-01 | 2.73E-02 |  | Market for shed | shed | Cutoff, U - GLO | 3.01E+01 | 4.25E-01 |  | 2.32E+01 | 3.58E-01 |
| Market for process-specific burdens, sanitary landfill | 9.00E-02 | 3.01E-03 |  | Market for electricity, low voltage | 2.19E+01 | 3.09E-01 |  | 1.68E+01 | 2.60E-01 |
| Tomato seedling production, in unheated greenhouse | 4.00E-02 | 1.28E-03 |  |  |  |  |  |  |  |
| Market for shed | shed | Cutoff, U - GLO | 1.29E+01 | 4.25E-01 |  |  |  |  |  |  |  |
| Market for electricity, low voltage | 9.38E+00 | 3.09E-01 |  |  |  |  |  |  |  |
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