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Correction

Correction: Fresán, U., et al. Water Footprint of Meat Analogs: Selected Indicators According to Life Cycle Assessment. *Water* 2019, *11*, 728

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The authors wish to make the following corrections to the text, table and references of this paper [1]: page 7, paragraph 3; page 9, paragraphs 1,2,3; page 10 paragraph 2; Table 3; reference #28–#36. The authors would like to apologize for any inconvenience caused to the readers by these changes.

1. Change in Main Body Paragraphs

The authors are sorry to report that, based on several changes to Table 3, portions of the text that appear in the Discussion and Conclusion sections require a slight modification. Consequently, the authors wish to make the following corrections to the paper:

Page 7, paragraph 3

Original text: Many studies have indicated that meat and other animal products are less water efficient than plant-based products in providing nutrition on both a gravimetric (mass) and caloric (energy) basis [5,28–31].

Revised text: Many studies have indicated that meat and other animal products are less water efficient than plant-based products in providing nutrition on both a gravimetric (mass) and caloric (energy) basis [5,28,29].

Page 9, paragraph 1

Original text: A comparison of similar, but not identical, plant-based meat analogs suggests an approximate three-fold difference in average water requirement for products described in this study compared to those reported by another company. While this discrepancy may reflect differences in water efficiencies associated with producing and/or processing the ingredients, it should be noted that water usage and water consumption are not identical metrics.

Revised text: A comparison of similar, but not identical, plant-based meat analogs suggests an approximate hundred-fold difference in the average water requirement for products described in this study compared to those reported by another company. While this discrepancy undoubtedly reflects differences in water efficiencies associated with producing and/or processing the ingredients, it should be noted that water usage and water consumption are not identical metrics.

Page 9, paragraph 2

Original text: With regard to water consumption, the impact of this study's meat analogs is similar than that of unprocessed animal meats (e.g., pork [32,33] and chicken [32,34]), based on total food mass. The range of water consumption estimates for unprocessed beef is vast and depends on whether animals are reared in extensive or intensive systems [28,29,32]. The protein content of meat analogs and unprocessed meat are very similar, comprising about 21% of their total mass. Thus, when comparing water consumption indices for meats and meat analogs on the basis of protein, the results are similar to those based on mass. Water use associated with the other company's meat analogs is less than a quarter of that for processed beef and chicken products and less than half of that for processed pork [20]. Minimally processed animal-sourced foods such as dairy products (e.g., yogurt) have substantially lower water consumption indices than do meat analogs [30], reflecting the sizeable water demand of processed foods derived from either plants or animals.

Revised text: With regard to water consumption, the impact of this study's meat analogs is greater than that of animal meats based on total food mass. However, the water consumption estimate for unprocessed beef depends on whether animals are reared in extensive or intensive systems [30,31]. Water use associated with the other company's meat analogs is factor of 3 to 30 less than that for processed beef, chicken and pork products [20]. The protein content of meat analogs and unprocessed meat are very similar, comprising about 21% of their total mass. Thus, when comparing water consumption indices for meats and meat analogs on the basis of protein, the results of our study are similar to those based on mass.

Page 9, paragraph 3

Original text: Eutrophication indicators for both marine and freshwater systems were similar for unprocessed animal meats and for the meat analogs presented on Table 3, including those investigated in this study and those reported by the other company. However, the freshwater eutrophication index for yogurt is higher than that for meat analogs, and processed meat products have a eutrophication potential that is 10- to 35-fold greater than that for analogs.

Revised text: Eutrophication indicators for both marine and freshwater systems were greater for unprocessed animal meats than for the meat analogs presented on Table 3, including those investigated in this study and those reported by the other company. The freshwater eutrophication index for minimally processed animal-sourced products, such as yogurt, is also higher than that for meat analogs. Processed meat products have eutrophication potentials that are 10- to 35-fold greater than that for analogs.

Page 10, paragraph 2

Original text: Nevertheless, it should be recognized that meat analogs are highly processed foods and, as such, appear to possess water requirements and environmental impacts similar to those of unprocessed or minimally processed animal-sourced products.

Revised text: Nevertheless, it should be recognized that meat analogs are highly processed foods and, as such, appear to possess water requirements and environmental impacts that vary, depending on ingredient and processing requirements, compared to those of unprocessed or minimally processed animal-sourced products.

2. Change in Figures/Tables

The authors wish to make the following correction to this paper [1]. Incorporating required changes into Table 3 on page 8, replace:

Table 3. Five life cycle assessment indicators associated with generating one kilogram (as the functional unit) of the products indicated.

Food Products	Impact Assessment Method	Water Consumption or Use (L)	Freshwater Eutrophication (kg P eq.*)	Marine Eutrophication (kg N eq.¥)	Freshwater Ecotoxicity (kg 1,4-DCB eq.#)	Marine Ecotoxicity (kg 1,4-DCB eq.#)
Meat analogs (current study)	ReCiPe 2016	3800	5.6×10^{-4}	2.2×10^{-3}	0.012	6.8×10^{-3}
Garlic quinoa burger [20]	Impact 2002+	1100 ∞	8.0×10^{-4}	—	—	—
Black bean burger [20]	Impact 2002+	1100 ∞	6.6×10^{-4}	—	—	—
Veggie burger (griller) [20]	Impact 2002+	2000 ∞	4.3×10^{-4}			
Veggie sausage patty [20]	Impact 2002+	1200 ∞	6.2×10^{-4}			
Veggie chicken patty [20]	Impact 2002+	1100 ∞	3.2×10^{-4}			
Unprocessed beef5 [28,29,32]	CML 2001, ReCiPe					
Extensive systems		<550 ©	0.042–0.087©	0.02©	—	—
Intensive systems		<15,000	0.13	—	—	—
Beef burger [20]	Impact 2002+	8400 ∞	0.019	—	—	—
Unprocessed pork& [32,33]	ReCiPe	1406/4000	2.4×10^{-3}©/0.07	0.11©	0.031©	6.2×10^{-3} ©
Pork sausage patty [20]	Impact 2002+	2900 ∞	6.1×10^{-3}	—	—	—
Unprocessed chicken [32,34]	ReCiPe, CML 2 baseline 2000	4000	0.01–0.02	—	0.11	330
Chicken sausage patty [20]	Impact 2002+	8000 ∞	0.012	—	—	—
Yogurt (plain) [30]	Impact 2002+, ReCiPe	220	2.5×10^{-3}	—	0.10	—

* kg P eq.: kilograms of phosphorus equivalents; ¥ kg N eq.: kilogram of nitrogen equivalents; # kg 1,4-DCB eq.: kilogram of 1,4-dichlorobenzene equivalents ∞ Values are reported as water use rather than water consumption, which refers to water that is unavailable following its use [34]. & Where applicable, meats were assumed to comprise 40% of the animal live weight. © Represents on-farm accounting only (excludes impacts from transportation, processing and packaging).

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Table 3. Five life cycle assessment indicators associated with generating one kilogram (as the functional unit) of the products indicated.

Food Products	Impact Assessment Method	Water Consumption or Use (L)	Freshwater Eutrophication (kg P eq.*)	Marine Eutrophication (kg N eq.¥)	Freshwater Ecotoxicity (kg 1,4-DCB eq.#)	Marine Ecotoxicity (kg 1,4-DCB eq.#)
Meat analogs (current study)	ReCiPe 2016	3800	5.6×10^{-4}	2.2×10^{-3}	0.012	6.8×10^{-3}
Garlic quinoa burger [20]	Impact 2002+	19 ∞	8.0×10^{-4}	—	—	—
Black bean burger [20]	Impact 2002+	33 ∞	6.6×10^{-4}	—	—	—
Veggie burger (griller) [20]	Impact 2002+	38 ∞	4.3×10^{-4}	—	—	—
Veggie sausage patty [20]	Impact 2002+	44 ∞	6.2×10^{-4}	—	—	—
Veggie chicken patty [20]	Impact 2002+	35 ∞	3.2×10^{-4}	—	—	—
Unprocessed beef© [30,31]	CML 2001, R&P 2010	<550 &				
Extensive systems©			0.49	0.021	—	—
Intensive systems©			0.36	0.029	—	—
Beef burger [20]	Impact 2002+	780 ∞	0.019	—	—	—
Unprocessed pork&©	ReCiPe	140	2.4×10^{-3}	0.11	0.031	6.2×10^{-3}
Pork sausage patty [20]	Impact 2002+	240 ∞	6.1×10^{-3}	—	—	—
Unprocessed chicken [33]	CML2 2000	—	0.017	—	0.11	330
Chicken sausage patty [20]	Impact 2002+	130 ∞	0.012	—	—	—
Yogurt (plain) [34]	Impact 2002+, ReCiPe	220	2.5×10^{-3}	—	0.10	—

* kg P eq.: kilograms of phosphorus equivalents; ¥ kg N eq.: kilogram of nitrogen equivalents; # kg 1,4-DCB eq.: kilogram of 1,4-dichlorobenzene equivalents ∞ Values are reported as water use rather than water consumption or depletion; & Where applicable, meats were assumed to comprise 40% of the animal live weight; © Represents on-farm accounting only (excludes impacts from transportation, processing and packaging).

3. Change in References

The authors wish to replace this reference to accommodate changes made in Table 3.

Original reference: 29. Zonderland-Thomassen, M.A.; Lieffering, M.; Ledgard, S.F.Water footprint of beef cattle and sheep produced in New Zealand: Water scarcity and eutrophication impacts. *J. Clean. Prod.* **2014**, *73*, 253–262.

Revised reference: 31. Ridoutt, B.G.; Sanguansri, P.; Harper, G.S. Comparing carbon and water footprints for beef cattle production in Southern Australia. *Sustainability*, **2011**, *3*, 2443–2455.

In addition, the following references has changed their order:

Original references order: 28, 29, 30, 31, 32, 33, 34 and 36.

Revised references order: 30, 31, 34, 28, 29, 32, 33 and 35, respectively. Original reference #35 has been deleted.

References

1. Fresán, U.; Marrin, D.L.; Mejia, M.A.; Sabaté, J. Water footprint of meat analogs: Selected indicators according to life cycle assessment. *Water* **2019**, *11*, 728. [CrossRef]