

Mars Proposal for the review of the Nutri-Score algorithm

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Mars believes transparency enables consumers to make informed choices, as part of broader efforts to reverse the obesity trend. Front of pack nutrition labelling information, such as Nutri-Score, is an excellent tool to better inform consumers. As we review opportunities to apply Nutri-Score to some of our brands, we would like to raise a few points and suggest some targeted improvements to the algorithm. We strongly believe these changes would further align the Nutri-Score algorithm with dietary guidelines and promote European public health goals.

First of all, we strongly support the calculation to be based on 100g. In the absence of official portion sizes, this is the only way for consumers to compare products in a reliable manner. We also support a calculation of the Nutri-Score based on prepared products as we believe this is the most useful information for consumers and it also allows to make comparisons between the same product sold reconstituted/cooked and raw (e.g pouch of cooked rice vs. dry rice).

We would, however, like to draw your attention to a few suggestions for amendments.

Summary of our key suggestions:

1. A **more gradual P points allocation for Fruit/Vegetables/Pulses /Nuts/Oils**
2. Including **wholegrains** in the P points calculation
3. **Products made predominantly with nuts** should be eligible for P points for protein content.
4. N score should be based on **added sugars rather total sugars** to better take into account the benefits of fruits and vegetables.
5. **Fruit and vegetable purees and pastes** should count towards the total fruit and vegetables in the product **even if not fully reconstituted**.

You can find below substantiated rationale for each point.

1. P point allocation for Fruit/ Vegetables / Pulses / Nuts /Oils

Increasing intakes of fruits, vegetables, nuts, legumes, pulses and wholegrains are key public health goals (1, 2). Numerous studies (3, 4) have shown that individuals with lower intakes of fruits, vegetables, pulses, nuts and wholegrains have higher mortality rates and disease burden associated with obesity, type 2 diabetes, heart disease, cancer and many other diet related illnesses. Nutrition surveys demonstrate that large proportions of both the European and global populations (4, 6) fail to meet recommended intakes of these foods.

One way to address the intake gap and improve compliance with food-based dietary guidelines is to provide fruits, vegetables, nuts, legumes, and pulses in packaged foods (7). This can be achieved through the reformulation of existing foods or innovation of new products to contain a meaningful amount of these foods. Research investigating portion

sizes supports the use of a 40% inclusion level as a meaningful amount (8). To incentivize this approach, we would ask the Steering Committee to consider allowing 3 and 4 P points to be scored for fruits, vegetables, pulses, nuts, and oils. This could be achieved by smoothing the current points allocation and allowing 1 additional point per 10% inclusion increment above the baseline 40% inclusion level (OPTION 1), or by specifying inclusion levels for a value of 3 or 4 points whilst keeping all other values the same (OPTION 2).

Points	Fruits, vegetables, pulses, nuts and rapeseed, walnut and olive oils % CURRENT	Fruits, vegetables, pulses, nuts and rapeseed, walnut and olive oils % OPTION 1	Fruits, vegetables, pulses, nuts and rapeseed, walnut and olive oils % OPTION 2
0	≤ 40	≤ 40	≤ 40
1	>40	>40	>40
2	>60	>50	>60
3	-	>60	>67
4	-	>70	>73
5	>80	>80	>80

2. Inclusion of Wholegrains

The 2019 Global Burden of Disease Study (4) showed that low intake of wholegrains as well as low intake of fruit, and high intake of sodium accounted for >50% diet-related deaths and a substantial proportion of disability-adjusted life-years related to cardiovascular disease. The health benefits of wholegrains extend beyond the fiber content (9, 10). Compared with refined flours and foods, wholegrains contain more iron, magnesium, manganese, phosphorus, potassium, selenium, and zinc, and vitamins B and E. Wholegrains also contain polyphenolic phytochemicals, such as phenols, flavonoids, and carotenoids (11). The current Nutri-Score algorithm does not include wholegrains and therefore does not incentivize their inclusion into packaged foods. We would ask the Steering Committee to consider including wholegrain into the calculation.

3. Nuts as a predominant ingredient

Nuts are a good source of plant protein, fiber, healthy fats, vitamins and minerals (12, 13). Regional authoritative bodies, such as the European Public Health Association recognize that : “poor diets are characterised by low intake of whole grains, vegetables and fruit, nuts and seeds, ... whereas, intakes of salt, sugar-sweetened beverages and red and processed meat are typically high, associated with low intakes of omega-3 fatty acids polyunsaturated fatty acids, calcium and fibre (14).” Similarly, the WHO European Food and Nutrition Action Plan (15) highlighted the need to promote, protect or reinstate healthy and sustainable diets. This report indicated that “some diets in parts of Europe are consistent with the characteristics of a healthy diet, notably the Mediterranean diet and the new Nordic diet.” The Mediterranean diet was defined as “based on high consumption of fresh vegetables, fruits, nuts, legumes, cereals and olive oil, with moderate consumption of dairy foods,

moderate to high consumption of fish and low consumption of meat”. Studies show that Mediterranean diets, supplemented with 30g of nuts per day, lowered the hazard ratio to 0.72 for major cardiovascular events compared to a low-fat diet control (16). Meta-analysis of prospective studies examining nut intake across diverse populations demonstrated that intake was consistently associated with reduced all cause mortality (19-20%), as well as cardiovascular disease incidence (19%) and mortality (25%) (17). Two other systematic reviews (18, 19) report similar findings and numerous reviews highlight the health benefits of nut consumption (18-21). As a result of this scientific consensus dietary guidelines across Europe including Bulgaria, Estonia, Ireland, France, Netherlands, Austria, Slovakia, Finland, Switzerland, and Iceland recommend daily consumption of nuts.

Products providing a significant portion of nuts can play an important role in helping populations achieve food based dietary guidelines and improve diet quality. When nuts are used as the predominant ingredient in packaged food products, the contribution of inherent calories and saturated fat results in a baseline N score >11 that excludes P point scoring for protein. Like the current modification in Nutri-score for cheese, when nuts are used as a predominant ingredient in products (e.g. > 50% of formula) an exemption to the baseline threshold should be provided. Therefore, nuts would be permitted to count P points for protein content whether the N point total is <11 or not. This exemption is consistent with EU Member State dietary guidelines encouraging nut consumption as a source of plant protein.

Products high in nuts should also be allowed to score saturated fat using a ratio approach. A ratio approach is currently used for plant-based added fats in the Nutri-Score algorithm where total saturated fats are divided by total lipids resulting in a % value that is designated a point value. Nuts are a good source of unsaturated fats, recommended by the World Health Organization(12) and EU Member State dietary guidelines(22). In the food-based dietary guidelines for Greece, Italy, Cyprus Austria and Slovenia, nuts are included in the oils and fats group. As with other plant-derived added fats, the fat content of nuts is negatively impacted by the sensitivity of the Food Standards Agency saturated fat scoring approach¹. We would ask the Steering Committee to consider treating the fat content of whole nuts in the same manner as other plant derived added fats and apply the ratio of total saturated fatty acids / lipids scoring approach in foods where nuts are the predominant ingredient.

4. Sugar content of fruits and vegetables

Diets rich in fruits and vegetables are consistently associated with better health outcomes (4, 23-29) and as such, they are recommended foods around the globe. Fruits and vegetables contain intrinsic sugars that contribute to increased N scores in the same way as simple, refined sugars. We would strongly advise the Steering Committee to consider calculating the N score based on added sugars rather than the current method of total sugars to recognize the additional beneficial contribution of fruits and vegetables to vitamin, mineral and fiber intakes.

¹ As mentioned in the [Nutri-Score FAQ](#) page 29, “Added fats”

5. Fruit and vegetable pastes

At the present time, concentrated fruit and vegetable purees can only be counted towards P points if they are reconstituted to 100%. These fruit and vegetable pastes such as concentrated tomato paste retain many of the vitamins, minerals and fiber of whole fruits and vegetables (30) and in some cases, bio nutrients such as lycopene are increased (31). Reconstituting with water does not impact this contribution. We would ask the Steering Committee to consider allowing fruit and vegetable purees and pastes to count towards the total fruit and vegetables in the product without reconstitution as the benefit of the fruits and vegetables are contained in the dry matter not in the water content.(32)

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We know we can only be truly successful if our partners and the communities in which we operate prosper as well. The Mars Five Principles – Quality, Responsibility, Mutuality, Efficiency and Freedom – inspire our Associates to take action every day to help create a world tomorrow in which the planet, its people and pets can thrive.

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1. McColl K, Løgstrup S, Kestens M. Transforming European food and drink policies for cardiovascular health. European Heart Network; 2017 29.09.17.
2. World Health Organization. A healthy diet sustainably produced. Geneva: World Health Organization; 2018.
3. Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, et al. Health effects of dietary risks in 195 countries, 1990 & 2013;2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2019;393(10184):1958-72.
4. Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019). Seattle, United States of America: Institute for Health Metrics and Evaluation (IHME); 2021.
5. James SL, Abate D, Abate KH, Abay SM, Abbafati C, Abbasi N, et al. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990-2013;2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2018;392(10159):1789-858.
6. European Commission. Table 5: Overview of fruit and vegetable intake in European countries. Health promotion & Disease Prevention Gateway [Available from: <https://ec.europa.eu/jrc/en/health-knowledge-gateway/promotion-prevention/nutrition/fruit-vegetables>].
7. Dwyer JT, Fulgoni VL, 3rd, Clemens RA, Schmidt DB, Freedman MR. Is "processed" a four-letter word? The role of processed foods in achieving dietary guidelines and nutrient recommendations. *Adv Nutr*. 2012;3(4):536-48.
8. Gibney MJ, O'Sullivan A, Flynn A, Walton J, Daniel H, Manios Y, et al. Analysis of the National Adult Nutrition Survey (Ireland) and the Food4Me Nutrition Survey Databases to Explore the Development of Food Labelling Portion Sizes for the European Union. *Nutrients*. 2018;11(1):6.
9. Barrett EM, Amoutzopoulos B, Batterham MJ, Ray S, Beck EJ. Whole grain intake compared with cereal fibre intake in association to CVD risk factors: a cross-sectional analysis of the National Diet and Nutrition Survey (UK). *Public Health Nutrition*. 2020;23(8):1392-403.
10. Barrett EM, Batterham MJ, Ray S, Beck EJ. Whole grain, bran and cereal fibre consumption and CVD: a systematic review. *Br J Nutr*. 2019;121(8):914-37.
11. Drewnowski A, McKeown N, Kissonick K, Beck E, Mejbourn H, Vieux F, et al. Perspective: Why Whole Grains Should Be Incorporated into Nutrient-Profile Models to Better Capture Nutrient Density. *Advances in nutrition (Bethesda, Md)*2021.
12. World Health Organization. Factsheet 394: Healthy Diet. Organization WH, editor. Geneva, Switzerland2020.
13. European Heart Network. Transforming European food and drink policies for cardiovascular health. Brussels, Belgium; 2017.
14. Birt CA, Buzeti T, Grosso G, Justesen L, Lachat C, Lafranconi A, et al. Healthy and Sustainable Diets for European Countries. European Public Health Association,; 2017.
15. World Health Organization. European Food and Nutrition Action Plan 2015-2020. Copenhagen, Denmark: World Health Organization Regional Office for Europe; 2014.
16. Estruch R, Ros E, Salas-Salvadó J, Covas M-I, Corella D, Arós F, et al. Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts. *New England Journal of Medicine*. 2018;378(25):e34.
17. Kim Y, Keogh J, Clifton PM. Nuts and Cardio-Metabolic Disease: A Review of Meta-Analyses. *Nutrients*. 2018;10(12).

18. Afshin A, Micha R, Khatibzadeh S, Mozaffarian D. Consumption of nuts and legumes and risk of incident ischemic heart disease, stroke, and diabetes: a systematic review and meta-analysis. *The American Journal of Clinical Nutrition*. 2014;100(1):278-88.
19. De Souza RGM, Schincaglia RM, Pimentel GD, Mota JF. Nuts and Human Health Outcomes: A Systematic Review. *Nutrients*. 2017;9(12):1311.
20. Alasalvar C, Salvadó J-S, Ros E. Bioactives and health benefits of nuts and dried fruits. *Food Chemistry*. 2020;314:126192.
21. Martini D, Godos J, Marventano S, Tieri M, Ghelfi F, Titta L, et al. Nut and legume consumption and human health: an umbrella review of observational studies. *International Journal of Food Sciences and Nutrition*. 2021:8.
22. European Commission. Food-Based Dietary Guidelines in Europe [cited 2021 28.04.2021]. Available from: <https://ec.europa.eu/jrc/en/health-knowledge-gateway/promotion-prevention/nutrition/food-based-dietary-guidelines>.
23. Farvid MS, Chen WY, Rosner BA, Tamimi RM, Willett WC, Eliassen AH. Fruit and vegetable consumption and breast cancer incidence: Repeated measures over 30 years of follow-up. *International journal of cancer*. 2019;144(7):1496-510.
24. Wang X, Ouyang Y, Liu J, Zhu M, Zhao G, Bao W, et al. Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies. *BMJ : British Medical Journal*. 2014;349:g4490.
25. Mursu J, Virtanen JK, Tuomainen T-P, Nurmi T, Voutilainen S. Intake of fruit, berries, and vegetables and risk of type 2 diabetes in Finnish men: the Kuopio Ischaemic Heart Disease Risk Factor Study. *The American Journal of Clinical Nutrition*. 2013;99(2):328-33.
26. Bazzano LA, Li TY, Joshipura KJ, Hu FB. Intake of Fruit, Vegetables, and Fruit Juices and Risk of Diabetes in Women. *Diabetes Care*. 2008.
27. He FJ, Nowson CA, MacGregor GA. Fruit and vegetable consumption and stroke: meta-analysis of cohort studies. *The Lancet*. 2006;367(9507):320-6.
28. Hung H-C, Joshipura KJ, Jiang R, Hu FB, Hunter D, Smith-Warner SA, et al. Fruit and Vegetable Intake and Risk of Major Chronic Disease. *JNCI: Journal of the National Cancer Institute*. 2004;96(21):1577-84.
29. Wang DD, Li Y, Bhupathiraju SN, Rosner BA, Sun Q, Giovannucci EL, et al. Fruit and Vegetable Intake and Mortality. *Circulation*. 2021;143(17):1642-54.
30. McCance DRW, E. McCance and Widdowson's composition of foods integrated dataset. *Public Health England*; 2021.
31. Górecka D, Wawrzyniak A, Jędrusek-Golińska A, Dziedzic K, Hamułka J, Kowalczewski PŁ, et al. Lycopene in tomatoes and tomato products. *Open Chemistry*. 2020;18(1):752-6.
32. Sattar N, Forouhi NG. More Evidence for 5-a-Day for Fruit and Vegetables and a Greater Need for Translating Dietary Research Evidence to Practice. *Circulation*. 2021;143(17):1655-8.