IV Workshop
INSA·UB - Cátedra UB-DANONE

Alimentación Saludable y Sostenible: "Alimentos Plant-Based"

Proteína vegetal: interés en el desarrollo de bebidas funcionales

Miguel López Moreno

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ORGANITZEN:

UNIVERSITAT DE BARCELONA
Càtedra d'Alimentació Saludable i Sostenible

DANONE

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Institut de Recerca en Nutrició i Seguretat Alimentària

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UNIVERSITAT DE BARCELONA
Facultat de Farmàcia i Ciències de l'Alimentació

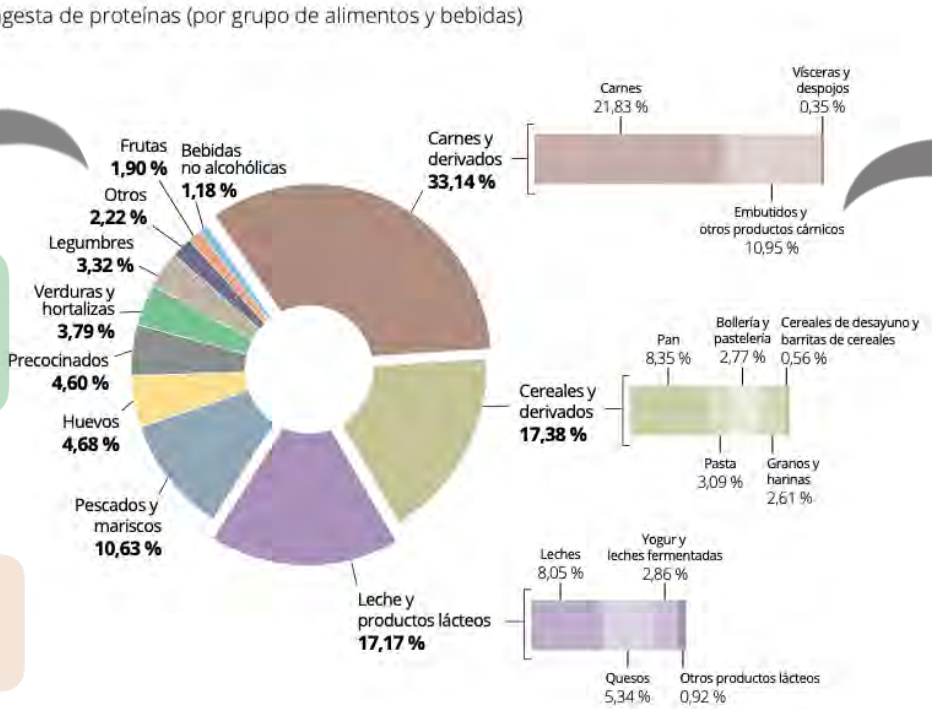
"Alimentos Plant-Based"

PROTEÍNA VEGETAL

<1/3 de la ingesta proteica procede de alimentos de origen **vegetal**

LEGUMBRES

Aportan únicamente el 3% del consumo proteico



PROTEÍNA ANIMAL

2/3 de la ingesta proteica procede de alimentos de origen **animal**

Anibes, 2016

IV Workshop INSA·UB - Cátedra UB DANONE de Alimentación Saludable y Sostenible:

"Alimentos Plant-Based"

	Consumo doméstico de TOTAL CARNE	% Variación 2021 vs. 2020	% Variación 2021 vs. 2019
Volumen (miles kg)	2.071.046,55	-10,2 %	-0,8 %
Valor (miles €)	14.842.534,76	-8,2 %	3,7 %
Consumo x cápita (kg)	44,74	-10,3 %	-1,1 %
Gasto x cápita (€)	320,63	-8,3 %	3,3 %
Parte de mercado volumen (%)	7,00	-0,23	-0,28
Parte de mercado valor (%)	19,91	-0,46	-0,69
Precio medio (€/kg)	7,17	2,2 %	4,5 %

	Consumo doméstico de LEGUMBRES	% Variación 2021 vs. 2020	% Variación 2021 vs. 2019
Volumen (miles kg)	162.940,22	-9,9 %	5,8 %
Valor (miles €)	310.888,68	-10,1 %	4,9 %
Consumo x cápita (kg)	3,52	-10,0 %	5,4 %
Gasto x cápita (€)	6,72	-10,3 %	4,6 %
Parte de mercado volumen (%)	0,55	-0,02	0,01
Parte de mercado valor (%)	0,42	-0,02	-0,01
Precio medio (€/kg)	1,91	-0,3 %	-0,8 %

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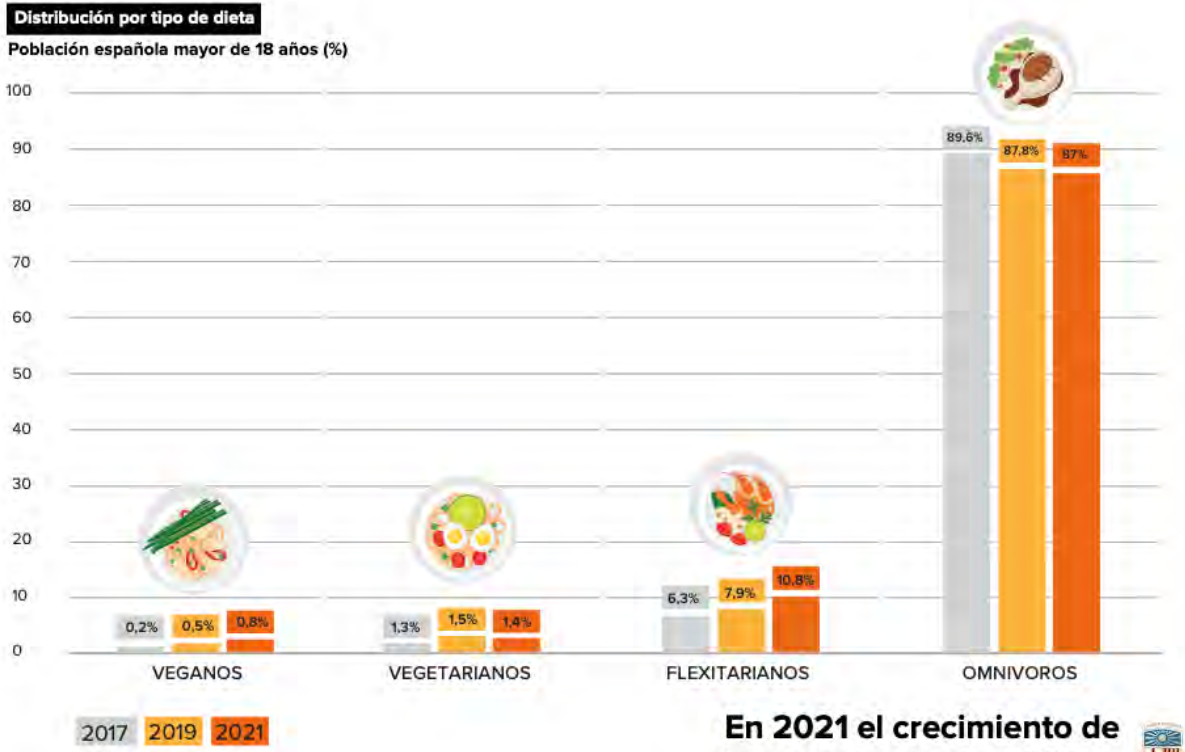
"Alimentos Plant-Based"



En 2021 el crecimiento de los veggies es de +34%

Latern, 2021

"Alimentos Plant-Based"

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Danone

"Alimentos Plant-Based"

Clinical Nutrition 40 (2021) 265–276

Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: http://www.elsevier.com/locate/clnu

Original article

The impact of type of dietary protein, animal versus vegetable, in modifying cardiometabolic risk factors: A position paper from the International Lipid Expert Panel (ILEP)

Fjolla Zhubi-Bakija [a], Gani Bajraktari [a, b, c, **], Ibadete Bytyçi [a, b], Dimitri P. Mikhailidis [d], Michael Y. Henein [c, e, f], Gustavs Latkovskis [g, h], Zarife Rexhaj [a], Esra Zhubi [b], Maciej Banach [i, j, k, *], on behalf of the International Lipid Expert Panel (ILEP)[l]

Class	Level	Daily dose of types of proteins	Effect on CV risk	Cardiovascular effects
I	B	>50% plant protein/day of total protein intake	↓ BP, insulin resistance, weight, CV risk	↓ diastolic dysfunction
I	B	Reduction of red meat (≤100 kcal/day and ≤3 servings/week)	↓ BP, insulin resistance, obesity, CHD, CV risk	↓ diastolic dysfunction, ↑ sICAM-1, sVCAM-1

Nutre con ciencia

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Càtedra d'Alimentació Saludable i Sostenible

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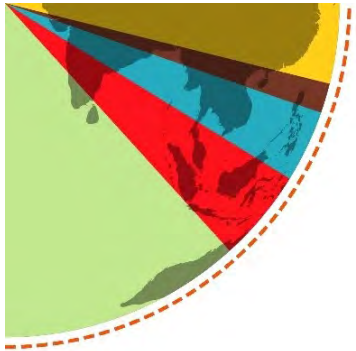
IV Workshop INSA·UB - Cátedra UB DANONE de Alimentación Saludable y Sostenible:

"Alimentos Plant-Based"

OBJETIVOS DE DESARROLLO SOSTENIBLE

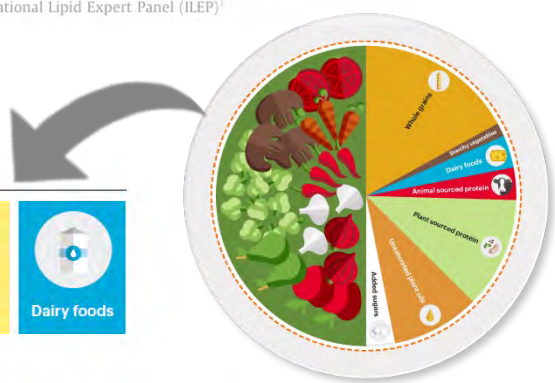
1 FIN DE LA POBREZA
2 HAMBRE CERO
3 SALUD Y BIENESTAR
4 EDUCACIÓN DE CALIDAD
5 IGUALDAD DE GÉNERO
6 AGUA LIMPIA Y SANEAMIENTO
7 ENERGÍA ASEQUIBLE Y NO CONTAMINANTE
8 TRABAJO DECENTE Y CRECIMIENTO ECONÓMICO
9 INDUSTRIA, INNOVACIÓN E INFRAESTRUCTURA
10 REDUCCIÓN DE LAS DESIGUALDADES
11 CIUDADES Y COMUNIDADES SOSTENIBLES
12 PRODUCCIÓN Y CONSUMO RESPONSABLES
13 ACCIÓN POR EL CLIMA
14 VIDA SUBMARINA
15 VIDA DE ECOSISTEMAS TERRESTRES
16 PAZ, JUSTICIA E INSTITUCIONES SÓLIDAS
17 ALIANZAS PARA LOGRAR LOS OBJETIVOS
OBJETIVOS DE DESARROLLO SOSTENIBLE



Original article

The impact of type of dietary protein, animal versus vegetable, in modifying cardiometabolic risk factors: A position paper from the International Lipid Expert Panel (ILEP)

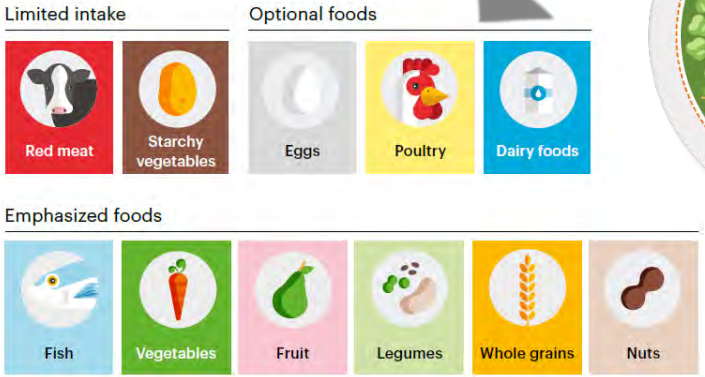
Fjolla Zhubi-Bakija [a], Gani Bajraktari [a, b, c, **], Ibadete Bytyçi [a, b], Dimitri P. Mikhailidis [d], Michael Y. Henein [e, g, f], Gustavs Latkovskis [g, h], Zarife Rexhaj [a], Esra Zhubi [b], Maciej Banach [i, j, k, *], on behalf of the International Lipid Expert Panel (ILEP) [l]



EAT

The EAT-*Lancet* Commission on Healthy Diets From Sustainable Food Systems

Food Planet Health



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DANONE

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts

Ramón Estruch, M.D., Ph.D., Emilio Ros, M.D., Ph.D., Jordi Salas-Salvadó, M.D., Ph.D., María-Isabel Covas, D.Pharm., Ph.D., Dolores Corella, D.Pharm., Ph.D., Fernando Arós, M.D., Ph.D., Enrique Gómez-Gracia, M.D., Ph.D., Valentina Ruiz-Gutiérrez, Ph.D., Miquel Fiol, M.D., Ph.D., José Lapetra, M.D., Ph.D., Rosa M. Lamuela-Raventos, D.Pharm., Ph.D., Lluís Serra-Majem, M.D., Ph.D., et al., for the PREDIMED Study Investigators*

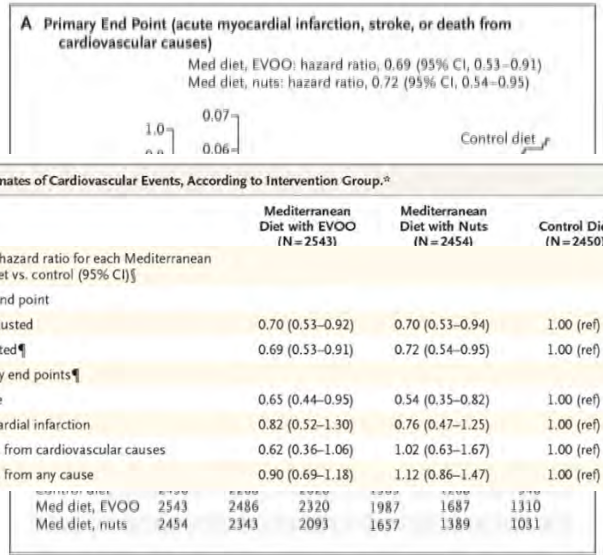
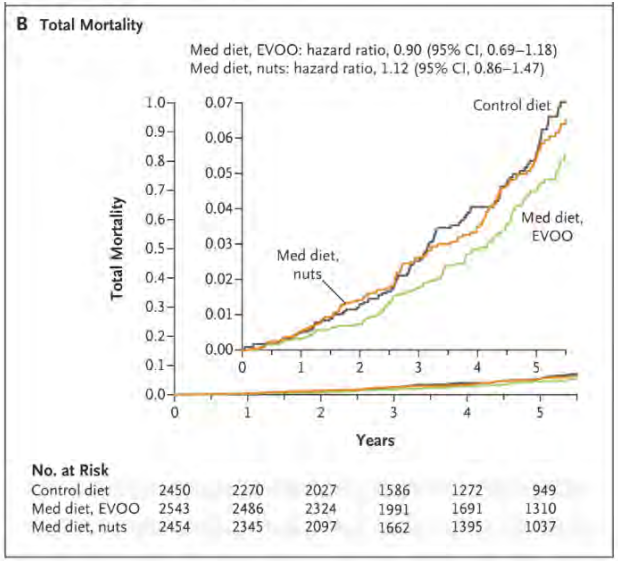


Table 3. Estimates of Cardiovascular Events, According to Intervention Group.*

End Point	Mediterranean Diet with EVOO (N=2543)	Mediterranean Diet with Nuts (N=2454)	Control Diet (N=2450)
ITT analysis: hazard ratio for each Mediterranean diet vs. control (95% CI)§			
Primary end point			
Unadjusted	0.70 (0.53–0.92)	0.70 (0.53–0.94)	1.00 (ref)
Adjusted¶	0.69 (0.53–0.91)	0.72 (0.54–0.95)	1.00 (ref)
Secondary end points¶			
Stroke	0.65 (0.44–0.95)	0.54 (0.35–0.82)	1.00 (ref)
Myocardial infarction	0.82 (0.52–1.30)	0.76 (0.47–1.25)	1.00 (ref)
Death from cardiovascular causes	0.62 (0.36–1.06)	1.02 (0.63–1.67)	1.00 (ref)
Death from any cause	0.90 (0.69–1.18)	1.12 (0.86–1.47)	1.00 (ref)

Med diet, EVOO	2543	2486	2320	1987	1687	1310
Med diet, nuts	2454	2343	2093	1657	1389	1031



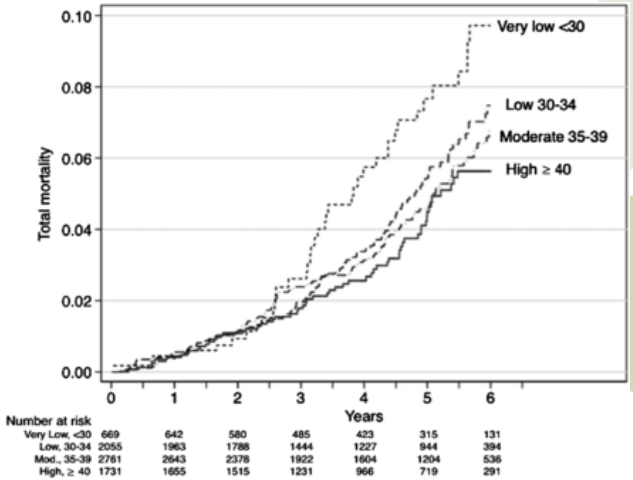
The American Journal of CLINICAL NUTRITION

JOURNAL ARTICLE

A provegetarian food pattern and reduction in total mortality in the Prevención con Dieta Mediterránea (PREDIMED) study

Miguel A Martínez-González, Ana Sánchez-Tainta, Dolores Corella, Jordi Salas-Salvadó, Emilio Ros, Fernando Arós, Enrique Gómez-Gracia, Miquel Fiol, Rosa M Lamuela-Raventós, Helmut Schröder ... Show more

The American Journal of Clinical Nutrition, Volume 100, Issue suppl_1, July 2014, Pages 320S–328S, https://doi.org/10.3945/ajcn.113.071431
Published: 28 May 2014



Higher baseline conformity with the provegetarian FP was associated with lower mortality (multivariable-adjusted HR for ≥40 compared with <30 points: 0.59; 95% CI: 0.40, 0.88).

Among omnivorous subjects at high cardiovascular risk, better conformity with an FP that emphasized plant-derived foods was associated with a reduced risk of all-cause mortality.

Open Access Comment

Comment on Montoro-García et al. Beneficial Impact of Pork Dry-Cured Ham Consumption on Blood Pressure and Cardiometabolic Markers in Individuals with Cardiovascular Risk. *Nutrients* 2022, *14*, 298

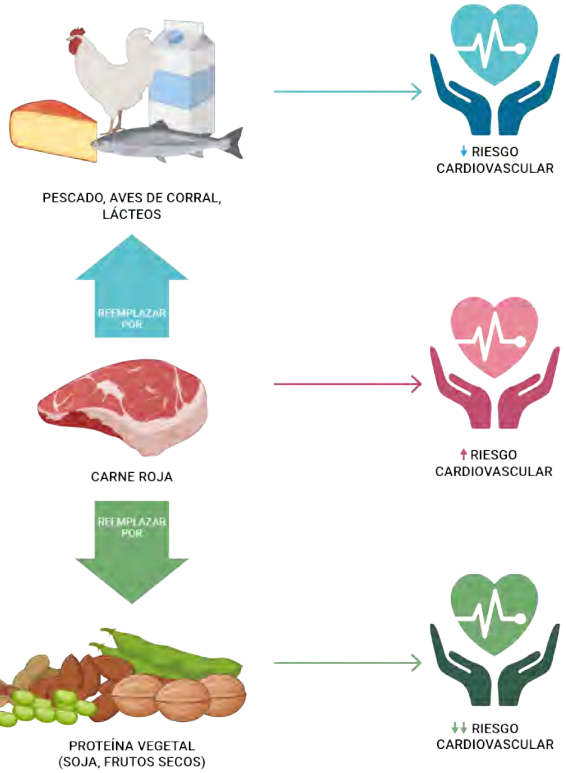
by Miguel López-Moreno

Grupo de Investigación en Biotecnología Alimentaria, Universidad Francisco de Vitoria, 28223 Madrid, Spain

Academic Editor: Jose V. Sorlí

Nutrients **2022**, *14*(20), 4266; https://doi.org/10.3390/nu14204266

Received: 11 July 2022 / Accepted: 9 October 2022 / Published: 13 October 2022



Zhubi-Bakija, F., et al. *Clinical Nutrition*, 2021

ESTUDIOS DE INTERCAMBIO ISOCALÓRICO

RESEARCH

Red meat intake and risk of coronary heart disease among US men: prospective cohort study

Laila Al-Shaar,[1] Ambika Satija,[1] Dong D Wang,[1,2] Eric B Rimm,[1,2,3] Stephanie A Smith-Warner,[1,3] Meir J Stampfer,[1,2,3] Frank B Hu,[1,2,3] Walter C Willett[1,2,3]

Original Investigation

FREE

August 26, 2019

Association of Animal and Plant Protein Intake With All-Cause and Cause-Specific Mortality in a Japanese Cohort

Sanjeev Budhathoki, PhD[1]; Norie Sawada, MD, PhD[1]; Motoki Iwasaki, MD, PhD[1]; et al

» Author Affiliations | Article Information

JAMA Intern Med. 2019;179(11):1509-1518. doi:10.1001/jamainternmed.2019.2806

Published: 29 October 2014

Carbohydrates, glycemic index and diabetes mellitus

Substitution of red meat with legumes in the therapeutic lifestyle change diet based on dietary advice improves cardiometabolic risk factors in overweight type 2 diabetes patients: a cross-over randomized clinical trial

S Hosseinpour-Niazi, P Mirmiran ✉, M Hedayati & F Azizi

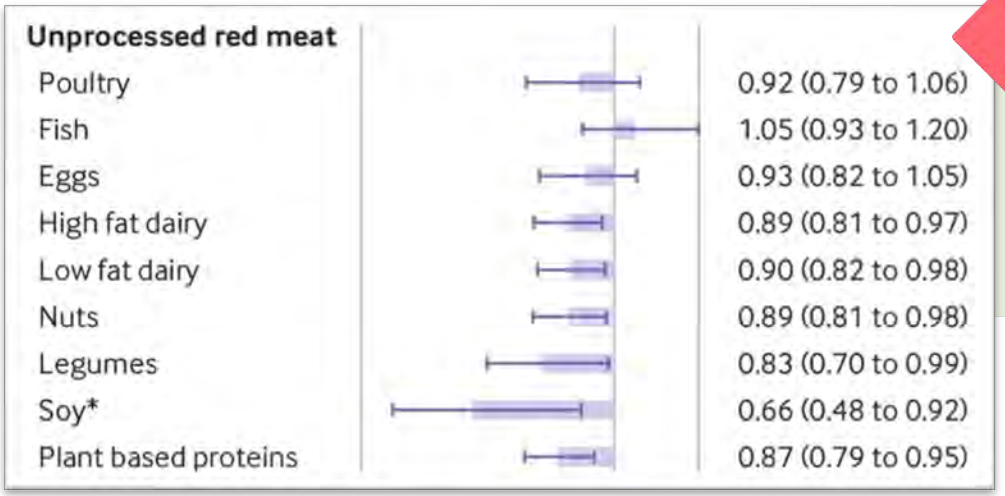
European Journal of Clinical Nutrition **69**, 592–597 (2015) | Cite this article

"Alimentos Plant-Based"

RESEARCH

Red meat intake and risk of coronary heart disease among US men: prospective cohort study

Laila Al-Shaar,[1] Ambika Satija,[1] Dong D Wang,[1,2] Eric B Rimm,[1,2,3] Stephanie A Smith-Warner,[1,3] Meir J Stampfer,[1,2,3] Frank B Hu,[1,2,3] Walter C Willett[1,2,3]



Por cada ración de carne roja que se sustituye por legumbres o proteína vegetal se REDUCE en **un 17% y 13% el riesgo de enfermedad coronaria**, respectivamente.

"Alimentos Plant-Based"

Original Investigation FREE

August 26, 2019

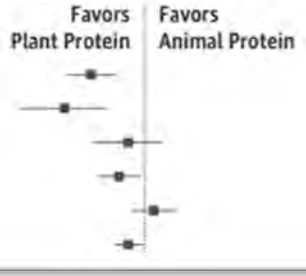
Association of Animal and Plant Protein Intake With All-Cause and Cause-Specific Mortality in a Japanese Cohort

Sanjeev Budhathoki, PhD[1]; Norie Sawada, MD, PhD[1]; Motoki Iwasaki, MD, PhD[1]; et al

Author Affiliations | Article Information

JAMA Intern Med. 2019;179(11):1509-1518. doi:10.1001/jamainternmed.2019.2806

Cause of Death	Protein Source	HR (95% CI)
All-cause	Red meat	0.66 (0.55-0.80)
	Processed meat	0.54 (0.38-0.75)
	Chicken	0.88 (0.67-1.14)
	Egg	0.82 (0.70-0.97)
	Dairy	1.07 (0.90-1.28)
	Fish	0.88 (0.79-0.99)



La sustitución isocalórica del 3% de la energía procedente de proteína de carne roja por proteína vegetal se asocia con una REDUCCIÓN del **34% de mortalidad por todas las causas, del 39% de la mortalidad por ECV y del 42% de mortalidad por cáncer**.

PROTEÍNA VEGETAL EN EL ÁMBITO DEPORTIVO

Animal Protein versus Plant Protein in Supporting Lean Mass and Muscle Strength: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

by Meng Thiam Lim, Bernice Jiaqi Pan, Darel Wee Kiat Toh, Clarinda Nataria Sutanto and Jung Eun Kim *

Department of Food Science & Technology, National University of Singapore, 3 Science Drive 3, Singapore 117543, Singapore
* Author to whom correspondence should be addressed.

Academic Editors: Jamie I. Baum and Elisabet Børsheim

Nutrients **2021**, *13*(2), 661; https://doi.org/10.3390/nu13020661

Received: 28 December 2020 / Revised: 5 February 2021 / Accepted: 13 February 2021 / Published: 18 February 2021

Results from the meta-analyses demonstrated that **protein source did not affect changes in absolute lean mass or muscle strength**.

PROTEÍNA VEGETAL EN EL ÁMBITO DEPORTIVO

Animal Protein versus Plant Protein in Supporting Lean Mass and Muscle Strength: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

by Meng Thiam Lim, Bernice Jiaqi Pan, Darel Wee Kiat Toh, Clarinda Nataria Sutanto and Jung Eun Kim *

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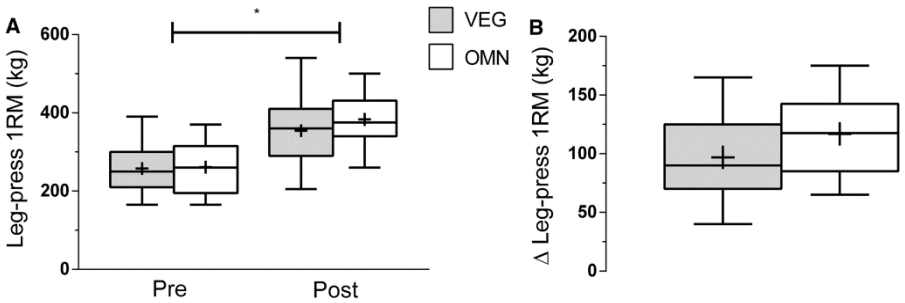
* Author to whom correspondence should be addressed.

Academic Editors: Jamie I. Baum and Elisabet Børsheim

Nutrients 2021, *13*(2), 661; https://doi.org/10.3390/nu13020661

Received: 28 December 2020 / Revised: 5 February 2021 / Accepted: 13 February 2021 / Published: 18 February 2021



Original Research Article | Published: 18 February 2021

High-Protein Plant-Based Diet Versus a Protein-Matched Omnivorous Diet to Support Resistance Training Adaptations: A Comparison Between Habitual Vegans and Omnivores

Victoria Hevia-Larraín, Bruno Gualano, Igor Longobardi, Saulo Gil, Alan L. Fernandes, Luiz A. R. Costa, Rosa M. R. Pereira, Guilherme G. Artioli, Stuart M. Phillips & Hamilton Roschel

Sports Medicine **51**, 1317–1330 (2021) | Cite this article

Exclusively plant-based diet is not different than a protein-matched mixed diet in supporting muscle strength and mass accrual, suggesting that **protein source does not affect resistance training-induced adaptations in untrained young men consuming adequate amounts of protein**.

PROTEÍNA VEGETAL EN EL ÁMBITO DEPORTIVO

SWAP-MEAT Athlete (study with appetizing plant-food, meat eating alternatives trial) – investigating the impact of three different diets on recreational athletic performance: a randomized crossover trial

Aubrey K. Roberts ✉, Vincent Busque, Jennifer L. Robinson, Matthew J. Landry & Christopher D. Gardner

Nutrition Journal **21**, Article number: 69 (2022) | Cite this article

Whole food plant-based (WFPB) and plant-based meat alternatives (PBMA)—vs. an omnivorous diet

2 servings of diet-specific protein sources/day

Supplementary Table 1. Nutrient Profiles per Serving of Whole Food Plant-Based Proteins, Plant-Based Meat Alternatives, and Animal Meat[1]

Product	Serving Size[2]	Kcals	Protein, g	Carbs, g	Total fat, g	Sat fat, g	Fiber, g	Sodium, mg
Whole Food Plant-Based								
Tofu[3]	3 oz	88	10	3	5	1	1	14
Tempeh	3 oz	163	17	6	9	2	0	8
Quinoa	½ cup	250	10	44	4	0	5	3
Black Beans	½ cup	96	6	18	0	0	7	265
Plant-Based Meat Alternatives								
Impossible Burger	4 oz	240	19	9	14	8	3	370
Beyond Beef Ground	4 oz	230	20	7	14	5	2	390
Gardein Chick'n Strips	4 oz	164	18	6	8	1	0	387
Animal Meat [4]								
Burger	3 oz	216	21	0	14	5	0	57
Pork	3 oz	214	23	0	13	5	0	41
Chicken Breast	3 oz	147	26	0	4	1	0	65

PROTEÍNA VEGETAL EN EL ÁMBITO DEPORTIVO

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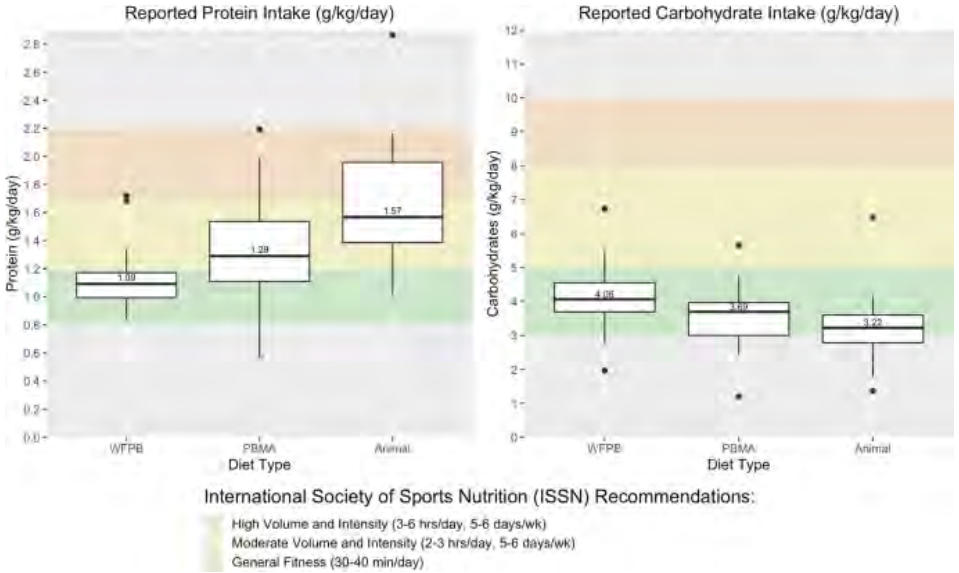

PROTEÍNA VEGETAL EN EL ÁMBITO DEPORTIVO

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Nutrition Journal **21**, Article number: 69 (2022) | Cite this article
1819 Accesses | **19** Altmetric | Metrics

Overall, **no significant changes in any athletic performance outcome** were seen between diets which suggests that both WFPB and PBMA can serve as a viable option for recreational athletes to adopt. performance.

Outcome	WFPB Mean ± SD[a]	PBMA Mean ± SD	Animal Mean ± SD	WFPB - Animal Mean Difference[b] 95% CI	PBMA - Animal Mean Difference 95% CI
Runners					
Primary					
12-minute timed run, m	2768 ± 347	2789 ± 378	2791 ± 391	−23.4 (−107, 60.0)	−2.9 (−119, 113)
Secondary					
VO_2 max, mL O_2/kg/min	50.1 ± 5.7	49.6 ± 5.4	48.9 ± 5.9	1.2 (−0.9, 2.5)	0.7 (−0.2, 1.7)
Resistance Trainers					
Primary					
Machine composite strength[c], total kg and %	298 ± 122	303 ± 123	313 ± 144	−2.7 (−5.8, 0.4)	−0.7 (−3.5, 2.2)
Secondary					
Push-up, n	34.9 ± 8.8	35.0 ± 7.6	37.6 ± 14.8	−2.7 (−8.0, 2.5)	−2.6 (−9.0. 3.8)
Pull-up, n	13.3 ± 3.2	13.5 ± 2.6	13.9 ± 3.0	−0.6 (−1.8, 0.5)	−0.5 (−1.6, 0.7)
Chest press, kg	67 ± 32	67 ± 32	68 ± 32	−1.2 (−3.5, 1.1)	−0.6 (−3.4, 2.2)
Leg press, kg	166 ± 78	170 ± 77	177 ± 99	−11.5 (−28.0, 4.9)	−7.2 (−24.0, 9.6)
Lat pull-down, kg	65 ± 22	66 ± 21	68 ± 23	−2.3 (−5.7, 1.1)	−1.4 (−3.8, 0.9)

VEGETAL NO SIEMPRE ES SINÓNIMO DE SALUDABLE

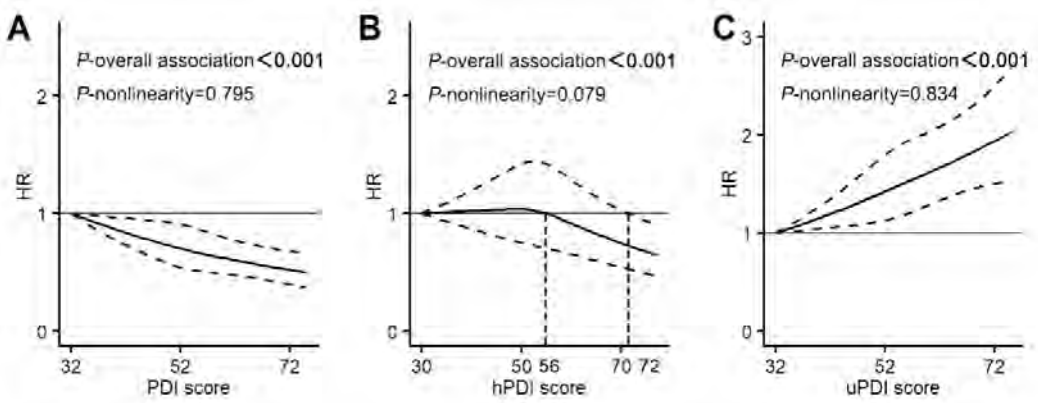
Original Contribution | Published: 11 August 2021

A prospective study of healthful and unhealthful plant-based diet and risk of overall and cause-specific mortality

Hairong Li, Xufen Zeng, Yingying Wang, Zhuang Zhang, Yu Zhu, Xiude Li, Anla Hu, Qihong Zhao & Wanshui Yang

European Journal of Nutrition **61**, 387–398 (2022) | Cite this article

1011 Accesses | **7** Citations | **44** Altmetric | Metrics



Increased intake of a plant-based diet rich in **healthier plant foods is associated with lower mortality risk**, whereas a plant-based diet that emphasizes less-healthy plant foods is associated with high mortality risk among US adults.

VEGETAL NO SIEMPRE ES SINÓNIMO DE SALUDABLE

Open Access Article

A Provegetarian Food Pattern Emphasizing Preference for Healthy Plant-Derived Foods Reduces the Risk of Overweight/Obesity in the SUN Cohort

by Clara Gómez-Donoso [1,2], Miguel Ángel Martínez-González [1,2,3,4], J. Alfredo Martínez [2,3,5], Alfredo Gea [1,2,3], Julen Sanz-Serrano [6], Federico J. A. Perez-Cueto [7] and Maira Bes-Rastrollo [1,2,3,*]

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3 Navarra Institute for Health Research (IdiSNA), 31008 Pamplona, Spain
4 Department of Nutrition, Harvard TH Chan School of Public Health, Boston, MA 02115, USA
5 Department of Nutrition, Food Sciences and Physiology, School of Pharmacy and Nutrition, University of Navarra, 31008 Pamplona, Spain
6 Department of Pharmacology and Toxicology, School of Pharmacy and Nutrition, University of Navarra, 31008 Pamplona, Spain
7 Food Design and Consumer Behavior Section, Department of Food Science, University of Copenhagen, Rolighedsvej 26, 1958 Frederiksberg C, Denmark
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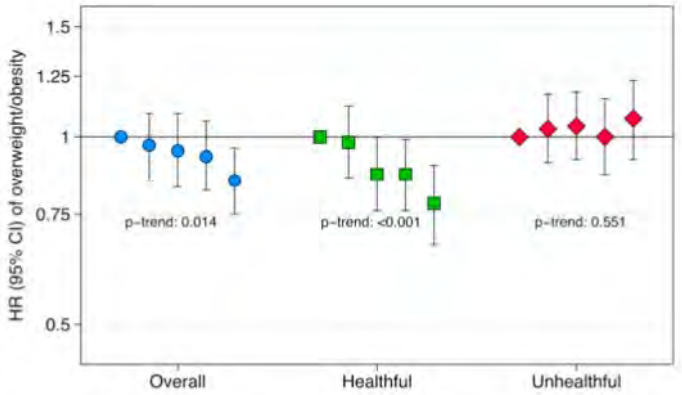
Nutrients **2019**, *11*(7), 1553; https://doi.org/10.3390/nu11071553
Received: 21 May 2019 / Revised: 24 June 2019 / Accepted: 5 July 2019 / Published: 9 July 2019

Healthful/Unhealthful Provegetarian Food Patterns (Potential Range of 18–90)		
Component	**Criteria**	
Plant Food Groups	**Energy-Adjusted Quintiles**	
Healthy	**Healthful**	**Unhealthful**
1. Vegetables	Positive	Reverse
2. Fruits	Positive	Reverse
3. Legumes	Positive	Reverse
4. Whole grains	Positive	Reverse
5. Nuts	Positive	Reverse
6. Olive oil	Positive	Reverse
7. Coffee	Positive	Reverse
Less-healthy		
8. Fruit juices	Reverse	Positive
9. Potatoes	Reverse	Positive
10. Refined grains	Reverse	Positive
11. Sugary beverages	Reverse	Positive
12. Pastries	Reverse	Positive



In conclusion, **higher adherence to a provegetarian FP** emphasizing preference for healthy plant-derived foods was associated with a **lower risk of developing overweight and obesity** in a cohort of Spanish university graduates with initial low body mass index.

Nutre con ciencia

Universitat de Barcelona
Càtedra d'Alimentació Saludable i Sostenible

DANONE

VEGETAL NO SIEMPRE ES SINÓNIMO DE SALUDABLE

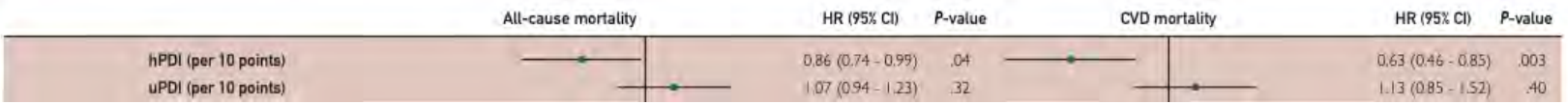
ORIGINAL ARTICLE | VOLUME 97, ISSUE 11, P2005-2015, NOVEMBER 01, 2022

Plant-Based Diets and All-cause and Cardiovascular Mortality in a Nationwide Cohort in Spain

The ENRICA Study

M. Delgado-Velandia, MSc • J. Maroto-Rodríguez, MSc • R. Ortolá, PhD • E. García-Esquinas, MD • F. Rodríguez-Artalejo, MD • M. Sotos-Prieto, PhD

DOI: https://doi.org/10.1016/j.mayocp.2022.06.008 • Check for updates



The **hPDI index, but not the uPDI, was associated with lower all-cause and CVD mortality** in a nationally representative sample of Spanish adults. This suggests that the quality of the plant foods is paramount to achieve diet-related benefits in mortality

BEBIDAS VEGETALES

Open Access Review

An Overview on Nutritional Aspects of Plant-Based Beverages Used as Substitutes for Cow's Milk

by Isabel Fructuoso [1], Bernardo Romão [1], Heesup Han [2,*], António Raposo [3,*], Antonio Ariza-Montes [4], Luis Araya-Castillo [5] and Renata Puppin Zandonadi [1]

Authors and Year	Ingredients	Energy (Kcal)	CHO (g)	Protein (g)	Lipid (g)
			Soy-based beverage		
Barros, 2016	Water, soybean (cultivar Embrapa BRS-213), acacia/arabic gum (3.00%), neutral alloy (guar and carboxymethylcellulose) (1.00%), vanilla essence (0.20%), tocopherol, ascorbic acid, concentrated apple juice.	61 [b]	12.38 [b]	1.32 [b]	0.65 [b]
Barros, 2016	Water, soybean (cultivar Embrapa BRS-213), acacia/arabic gum (3.00%), neutral alloy (guar and carboxymethylcellulose) (1.00%), vanilla essence (0.20%), tocopherol, ascorbic acid, concentrated apple juice.	60 [b]	12.20 [b]	1.20 [b]	0.75 [b]
Barros, 2016	Water, soybean (cultivar Embrapa BRS-213), acacia/arabic gum (3.00%), neutral alloy (guar and carboxymethylcellulose) (1.00%), vanilla essence (0.20%), tocopherol, ascorbic acid, concentrated apple juice.	61 [b]	12.18 [b]	1.12 [b]	0.82 [b]
Barros, 2016	Water, soybean (cultivar Embrapa BRS-213), acacia/arabic gum (3.00%), neutral alloy (guar and carboxymethylcellulose) (1.00%), vanilla essence (0.20%), tocopherol, ascorbic acid, concentrated apple juice.	60 [b]	12.41 [b]	0.99 [b]	0.70 [b]

Authors and Year	Ingredients	Energy (Kcal)	CHO (g)	Protein (g)	Lipid (g)
			Soy-based beverage		
Barros, 2012	Water, soybean (cultivar Embrapa BRS-213).	44 [b]	1.44 [b]	4.50 [b]	2.31 [b]
Barros, 2012	Water, soybean (cultivar Embrapa BRS-213), tocopherol.	51 [b]	1.53 [b]	4.83 [b]	2.83 [b]
Barros, 2012	Water, soybean (cultivar Embrapa BRS-213), tocopherol.	54 [b]	1.70 [b]	4.99 [b]	2.99 [b]
Barros, 2012	Water, soybean (cultivar Embrapa BRS-258).	50 [b]	1.77 [b]	4.49 [b]	2.82 [b]
Barros, 2012	Water, soybean (cultivar Embrapa BRS-258), tocopherol.	51 [b]	1.69 [b]	4.74 [b]	2.79 [b]

BEBIDAS VEGETALES

Food Research International 131 (2020) 108972

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Health issues and technological aspects of plant-based alternative milk

Aline R.A. Silva[a,*], Marselle M.N. Silva[a], Bernardo D. Ribeiro[b,*]

[a] Instituto de Química, UFRJ. Av. Athos da Silveira Ramos, 149, bloco A – Cidade Universitária, Rio de Janeiro, RJ 21044-020, Brazil
[b] Escola de Química, UFRJ. Av. Athos da Silveira Ramos, 149, bloco E – Cidade Universitária, Rio de Janeiro, RJ 21044-020, Brazil

		Protein (g)
Whole Cow's milk		3.33
Almonds	Raw material	17.86
	Aqueous Extract	0.42
Rice	Raw material	6.67
	Aqueous Extract	0.1
Oat	Raw material	12.5
	Aqueous Extract	1.67
Hazelnut	Raw material	13.33
	Aqueous Extract	0.4
Cashew nut	Raw material	14.29
	Aqueous Extract	1.9
Brazil nut	Raw material	14.29
	Aqueous Extract	1.75
Sesame seed	Raw material	10
	Aqueous Extract	2.97
Chickpea	Raw material	8.75
	Aqueous Extract	1.21
Quinoa	Raw material	2.86
	Aqueous Extract	0.5
Sunflower seed	Raw material	20
	Aqueous Extract	0.78
Soybean	Raw material	36.67
	Aqueous Extract	3.33

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Food Chemistry
Volume 338, 15 February 2021, 128020

True ileal amino acid digestibility and digestible indispensable amino acid scores (DIAASs) of plant-based protein foods

Yohan Reynaud [a, b], Caroline Buffière [c], Benoît Cohade [c], Mélissa Vauris [c], Kevin Liebermann [c], Noureddine Hafnaoui [c], Michel Lopez [a], Isabelle Souchon [d], Didier Dupont [b], Didier Rémond [c]

Table 6
Digestible indispensable amino acid scores (DIAAS, %), and limiting amino acid for seitan, tofu, soya milk and pea emulsion.

	Seitan	Tofu	Soya milk	Pea emulsion
Infant (birth to 6 months)	19 (Lys)	68 (SAAs)	78 (Leu)	42 (SAAs)
Child (6 months to 3 years)	24 (Lys)	83 (SAAs)	99 (Lys)	51 (SAAs)
Older child, adolescent, adult	28 (Lys)	97 (SAAs)	117 (Val)	60 (SAAs)

Scores were calculated using the recommended amino acid scoring patterns for three age groups (FAO, 2013).

BEBIDAS VEGETALES

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Journal of Functional Foods
Volume 89, February 2022, 104938

Antinutrients: Lectins, goitrogens, phytates and oxalates, friends or foe?

M. López-Moreno [a, b], M. Garcés-Rimón [b], M. Miguel [a]

Food Chemistry
Volume 338, 15 February 2021, 128020

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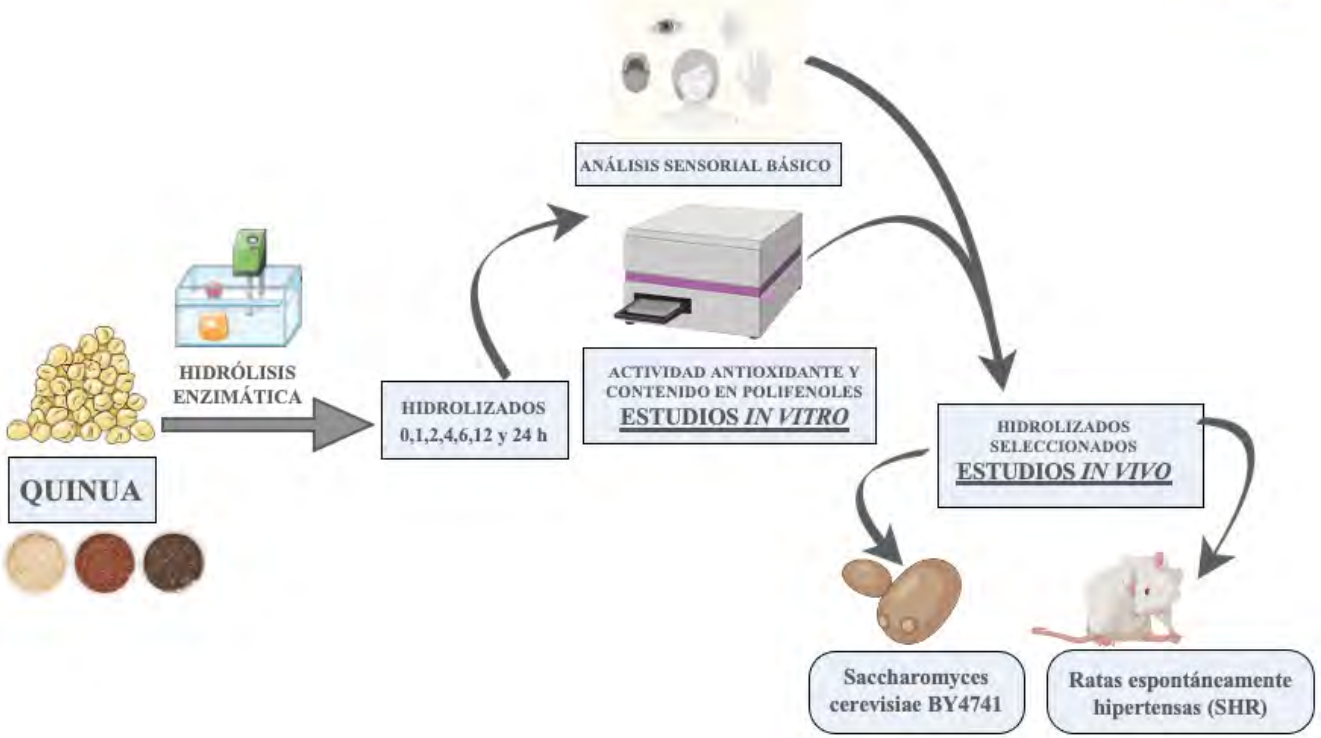
In the context of a regular diet when they are consumed in a food matrix and with a **culinary treatment or processing such germination, fermentation or milling**, in which they are reduced in concentration
or are found a synergy with other compounds beneficial to health,
the negative effects are gre

BEBIDAS VEGETALES CON PROPIEDADES FUNCIONALES



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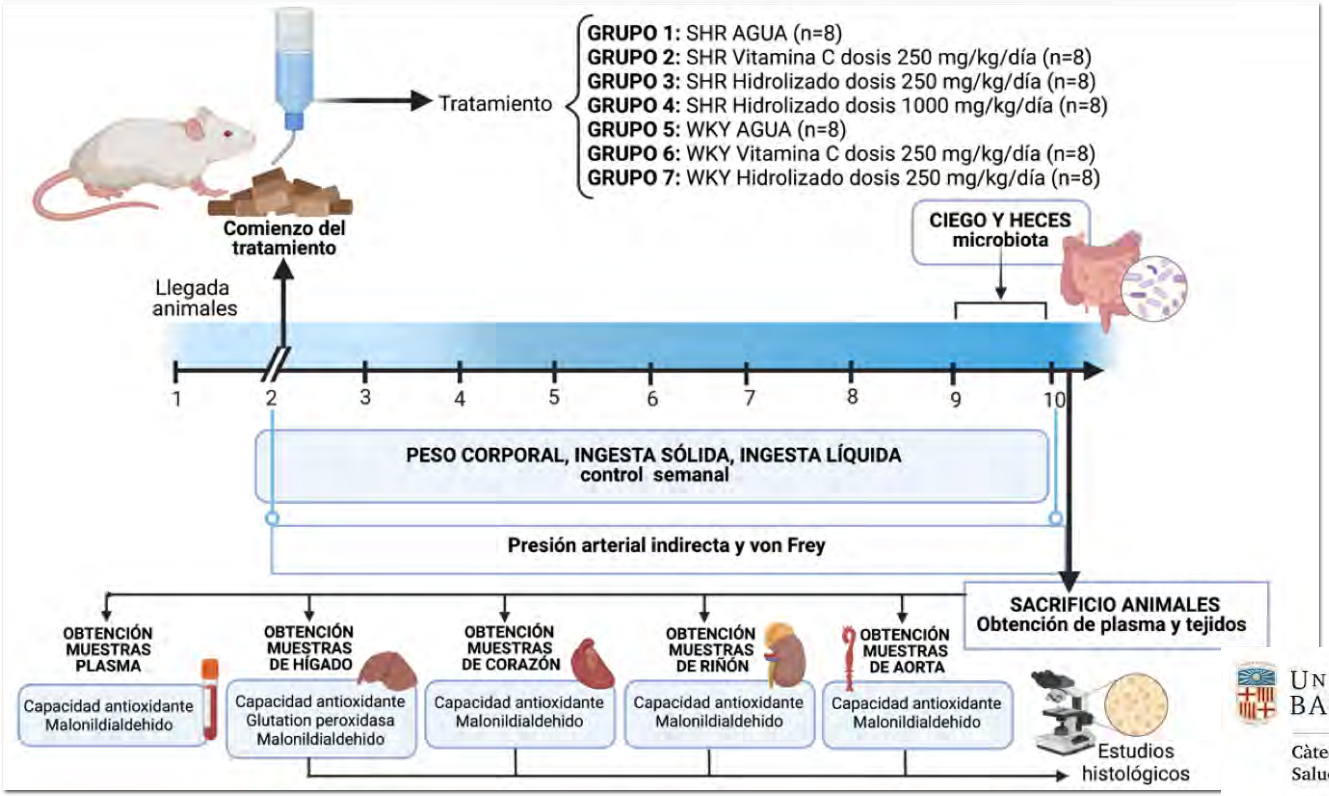

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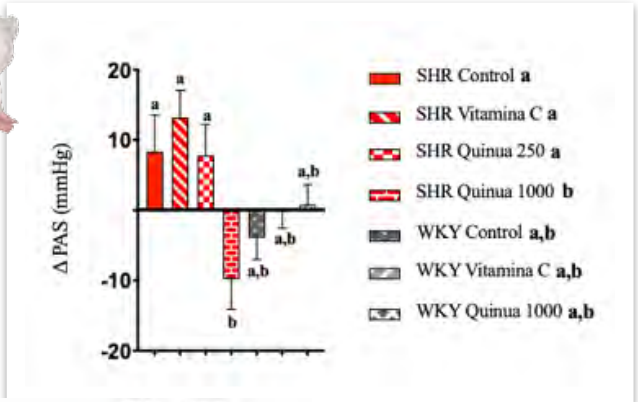

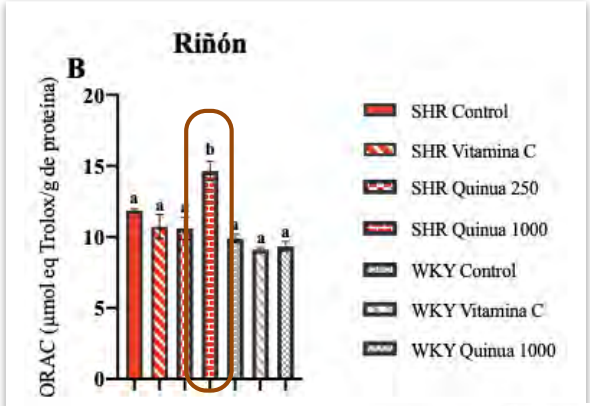

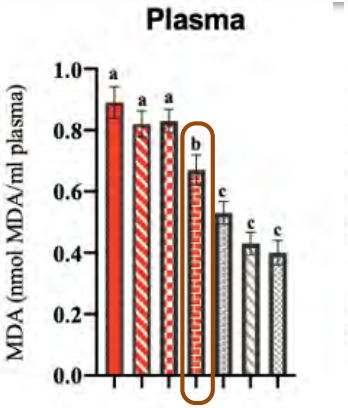

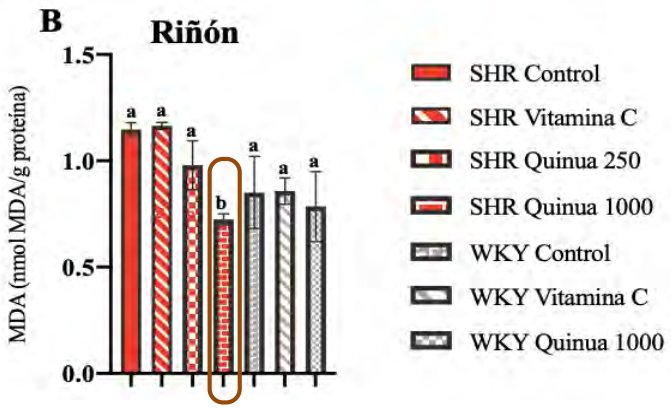

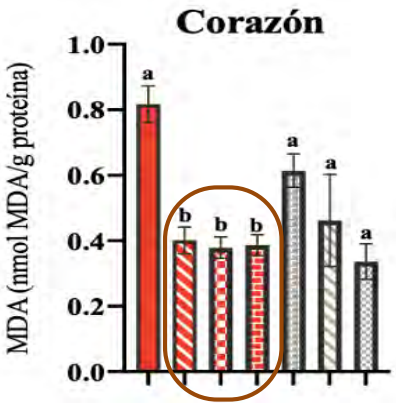

IV Workshop
INSA·UB - Cátedra UB-DANONE

Alimentación Saludable y Sostenible: "Alimentos Plant-Based"

Proteína vegetal: interés en el desarrollo de bebidas funcionales

Miguel López Moreno

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