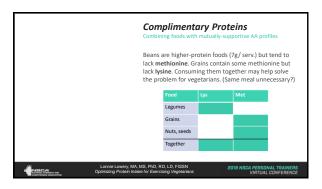


Vegetarian Types that had a face." Lacto-ovo vegetarians consume dairy and eggs (more variety) while vegans consume only plants (less variety). • Ethical reasons Weight management Chronic disease reduction Longevity Diet planning At-risk Nutrients ils, complete proteins Restricting intake by removing sections of the Food Guide (Pyramid, My Plate, etc.) calls for increased focus on... Vitamins D and B₁₂ Iron and Calcium · Zoochemicals (creatine) Complete proteins Diet planning

Protein Quality How "good" are my choices? Complete proteins (typically animals) contain all nine indispensable amino acids, incomplete proteins (most plants) do not. Quality scales get more granular, however. • Meats, dairy, egg • PDCAAS • Grains, beans/ legumes • DIAAS (newer) • Collagen, gelatin • Fast vs. slow • Leucine content • PER, BV, NPU Lornie Lowery, MAM, S.PO, RO, LD, FISSY Outer Make for Eurolany legalarins ZOTE MASCA PERSONAL TRANSPER, VICTURE STANSPER, VICTURE (MASCA PERSONAL TRANSPER, VICTURE STANSPER, VICTU

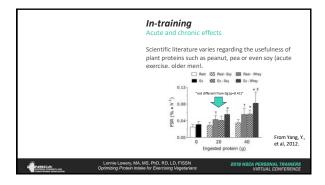
	Protein Quality How "good" are my choices?						
	Food	PDCAAS	DIAAS	Limiting AA			
	Milk Pro Conc						
	Soy Pro Iso	0.98	0.90	Met, Cys			
	Pea Pro Conc	0.89	0.82	Met, Cys			
	Whole milk						
	Boiled Egg						
	Almonds	0.39	0.40	Lys			
	Chic Peas	0.74	0.83	Met, Cys	From		
	Tofu	0.56	0.52	Met, Cys	Phillips, 2017.		
Lonnie Lowery, MA, I Optimizing Protein Intak	Lonnie Lowery, MA, MS, PhD, RD, LD, FISSN Optimizing Protein Intake for Exercising Vegetarians				2019 NSCA PERSONAL TRAINERS VIRTUAL CONFERENCE		

	Protein Quality How "good" are my cho	Protein Quality How "good" are my choices? "The digestibility of plant-based protein appears to be markedly less than that of animal products, which might need to be accounted for when designing a vegan diet."	
	protein appears to than that of anima might need to be		
	-Rogerson, 2017		
- NECA	Lonnie Lowery, MA, MS, PhD, RD, LD, FISSN Optimizing Protein Intake for Exercising Vegetarians	2019 NSCA PERSONAL TRAINERS VIRTUAL CONFERENCE	



Complimentary Proteins Many regional foods are consumed in cultures around the world for both taste and protein quality of the meal. Beans and rice Beans and corn bread Corn and lima beans · Bean burritos · Peas and corn **Complimentary Proteins** How should the timing be done? With other vegetables in the diet, beans, grains, nuts and seeds can be consumed at the same meal or simply across the day. Same-meal intake is physiologically attractive but it's currently less advised than in the past.(Rogerson, 2017) **Another Consideration** "...stimulation of MPS would require ingestion of a protein that is higher in leucine or fortification of a lower leucine-containing protein (i.e., lower quality or lower dose) with leucine." -Phillips, 2017 Not all training studies suggest leucine-rich whey or even protein supplementation itself is necessary for strength or hypertrophy development. Energy intake is also important. (Messina, 2018; Mobley,

2017)



In-training

Acute and chronic effect

Scientific literature varies regarding the usefulness of plant proteins such as peanut, pea or even soy (meta analysis or 12-week training study).

"In addition to an appropriate training, the supplementation with pea protein promoted a greater increase of muscle thickness as compared to placebo... vegetable pea proteins could be used as an alternative to whey-based dietary products."
-Babault, 2015

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Lonnie Lowery, MA, MS, PhD, RD, LD, FISSN

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Practical Applications

- Veganism is more restrictive than lacto-ovo vegetarianism, and may bar access to higherquality egg or dairy proteins.
- Combining various plant proteins throughout the day to exceed the Recommended Dietary Allowance or adding specific indispensable amino acids may increase anabolism.
- Soy and pea protein consumption combined with resistance exercise training do have support in the scientific literature for strength development or hypertrophy in younger participants. Older men may require higher doses.



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