



NUTRITION NOTES

PULSES & PROTEIN: IN BALANCE FOR TODAY'S DIET

by Debra McLennan, RD, APG Food and Nutrition Coordinator

Protein continues to be a trend in nutrition. It started with a focus on the total amount of protein required in the diet but has been shifting to the type of protein people want to include in their diets.

Protein plays an important role in maintaining our health. It's required to build and repair body tissues, as well as build the antibodies we use to fight infection and keep our red blood cells healthy. More recently, research has shown that protein has benefits for preserving lean muscle mass and promoting satiety.

But how much protein do we really need each day? In Canada, we've been using the Dietary Reference Intakes (DRI) as a guide, which has 0.8 grams protein/kg body weight as the Recommended Dietary Allowance (RDA) for protein for healthy adults. This works out to about 46 grams of protein per day for women and 56 grams of protein per day for men. These amounts reflect the minimal amount of protein we should have to prevent symptoms of protein deficiency in most healthy adults. What does this look like in terms of food? Using the recommended portion sizes in the Meat & Alternatives group from Canada's Food Guide to Healthy Eating, a 75 gram (2.5 oz) cooked serving of meat,

fish or poultry provides anywhere from 14-30 grams of protein and a 175 mL (3/4 cup) serving of cooked pulses provides 12-13 grams of protein.

The type or source of protein is as important as the amount of protein we eat each day. Protein is made up of building blocks called amino acids. Amino acids make up 75% of the human body. They are essential to nearly every bodily function, and every chemical reaction that takes place in the body depends on them and the proteins that they build. There are 20 amino acids that are important to human nutrition, and they are classified as being essential (indispensable) or non-essential (dispensable) (see Table 1). An essential amino acid cannot be made by our bodies, so they must be supplied by our diet. Non-essential amino acids can be made by our bodies, so we don't have to rely on our diets to supply them.

By linking together these different amino acids in a variety of combinations, we get the protein that we find in our foods.

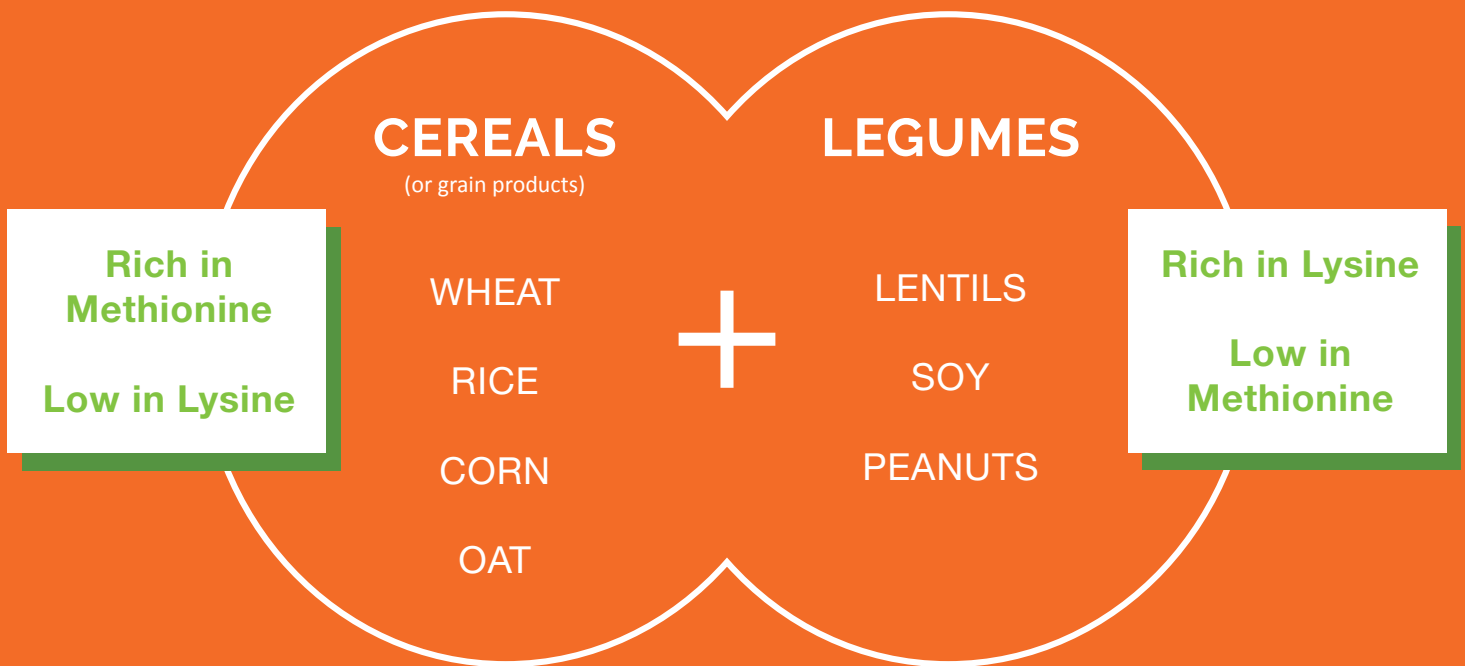
What's interesting is that our bodies can make their own protein from the amino acids that we get from the foods we eat. The dietary protein we eat is classified as either a complete

Dietary Requirements for Amino Acids in Humans	
ESSENTIAL	NON-ESSENTIAL
Histidine	Alanine
Isoleucine	Arginine
Leucine	Asparagine
Lysine	Aspartate
Methionine	Cysteine
Phenylalanine	Glutamate
Threonine	Glutamine
Tryptophan	Glycine
Valine	Proline
	Serine
	Tyrosine

Table 1

protein or an incomplete protein. A complete protein is one that contains all of the essential amino acids, while an incomplete protein may be missing or low in one or more of the essential amino acids. Protein from animal sources is considered a complete protein while protein from plant sources is often an incomplete protein. Since pulses are a source of plant protein, they are considered an incomplete protein; pulses are low in

PROTEIN FROM CEREALS & LEGUMES ARE COMPLEMENTARY



TOGETHER CEREALS AND LEGUMES CREATE A COMPLETE PROTEIN

Figure 1

the essential amino acid methionine, but high in lysine. Grains such as wheat, barley and rice are rich in methionine, but low in lysine, so when these two foods are eaten together, they provide all the essential amino acids and together are a complete protein. (see Figure 1).

Years ago, as dietitians, we were taught that you had to eat these two types of protein at the same meal, so our bodies would get all the essential amino acids. We've since learned that we have an amino acid pool in our bodies, so as long as these complementary proteins are eaten at some point during the day, the

amino acid pool will be replenished each time we eat.

So where do pulses fit into this protein trend? Since International Year of Pulses in 2016 raised the profile of pulses as an inexpensive, sustainable and excellent source of plant-based protein, pulses have become more popular than ever! We're seeing a greater number of foods including pulse ingredients (think pea milk, black bean crackers, pasta, cereals) and people looking for low fat protein choices for meals and snacks.

When it comes to our diets, though, it isn't all about the protein! The key to

a healthy diet is balance and including foods from all the food groups. Ideally, meals should feature a food from each food group and snacks should include a food from one or two of the food groups. Enjoy some pulses today as a snack like hummus and pita chips or try the Picnic Protein Bowl on the next page for a tasty lunch or supper!

Do you have a question about pulse nutrition? I would love to hear from you! You can contact me at dmcclennan@albertapulse.com or (780) 986-9398 ext. 109.