NUTRITION NOTES

POWER UP WITH PULSES!

For athletes, including pulses as part of a healthy, well-balanced diet can help to satisfy hunger, avoid fatigue, and improve performance. Key nutrients in pulses like carbohydrate, protein, iron, vitamins, and antioxidants are also important elements in sports nutrition.

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Carbohydrate – The Energy Source

We use carbohydrates as a source of energy during exercise. Carbohydrates provide the fuel for our brain and muscles and are stored in the liver and muscles in the form of glycogen. With exercise, and especially intense exercise or training, glycogen is broken down to glucose (sugar) to be used for energy by our muscles, to maintain stable blood glucose levels and to keep us feeling focused. If glycogen stores are low, we can feel tired and our exercise or sport event feels harder, so it's important to have enough carbohydrate in our diet to ensure we have sufficient glycogen stores to be able to perform at our best.

Pulses provide low-glycemic index carbohydrates. These are carbohydrates that are slowly digested and can provide a sustained source of energy to muscles over time and improve metabolism during endurance exercise by preserving muscle glycogen and promoting the use of fats by the muscle.[1] Studies with athletes performing high intensity, intermittent exercise that consumed a low-glycemic index meal found the metabolic profile improved during the exercise/activity while athletic performance was not affected. This improved metabolic response may have beneficial effects on the long-term health of athletes.[2,3]

Pulses can be a key player in a well-balanced diet for athletes as a nutritious, carbohydrate-rich food. Including pulses in everyday meals, snacks and after intense exercise/activity that has lasted more than an hour will help replenish glycogen stores and energy that was burned during the activity and get you ready for the next session.

Protein – Muscle Repair & Building

In an athlete's diet, protein plays an important role in building, repairing, and maintaining muscle tissue. The amount of protein that an athlete requires is individual and those requirements can be met through a variety of food sources, like pulses! While pulses are a great source of plant-based protein, this is an incomplete protein because it is low in one or more of the nine essential amino acids that the body isn't able to make and must get from food. However, eating a variety of plant-based foods like whole grains, nuts, and seeds along with pulses throughout the day can provide high levels of good quality protein and all the essential amino acids to build a complete protein.

Protein is typically included at each meal and snack, as part of a healthy, balanced diet to meet protein needs to improve strength, performance, and recovery. Including pulses in post-exercise meals and snacks will assist with muscle repair and growth as well as help an athlete recover for the next session.

Iron – The Critical Element

Iron is an important mineral for athletes because it helps the body use and carry oxygen to working muscles. Pulses are rich in iron, however it is a plant source, which is not as well-absorbed as iron from animal sources. When eating pulses, including a source of vitamin C like citrus fruits, berries, broccoli, or bell pepper will help increase the iron absorption from pulses.

B-vitamins & Antioxidants – Important Support

B-vitamins are important for releasing energy in the body, building and repairing tissues, and for healthy red blood cells. The B-vitamins found in pulses include

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folate as well as thiamin, riboflavin, niacin, pantothenic acid, and B6.

Antioxidants help to protect body cells from damage after exercise. Antioxidants are found in several nutrient-rich foods, especially plant-based foods which includes pulses! The antioxidant found in pulses is selenium, which is also found in meat, fish, poultry, milk and milk alternatives, whole grains, nuts, and seeds.

Antioxidants and B-vitamins, two more reasons pulses are a great addition to an athlete's diet!

Pulses - The Perfect Partner!
Pulses are the perfect combination of carbohydrate, protein, iron, and key nutrients to provide athletes and active individuals with the fuel and building blocks to meet the demands of almost any type of sport or activity. This is just a bit of information about how pulses can play a role in sports nutrition. Nutrition needs will vary based on the type of sport, performance goals, training, and food preferences. Talking to a registered dietitian who specializes in sports nutrition is recommended to assess each athlete's personal needs.

Alberta Pulse Growers is excited to partner with Emily Mardell, RD, FC Edmonton Soccer Club's performance dietitian, to create a sports nutrition-focused recipe series featuring pulses. Emily approached APG with this opportunity due to the interest in plant-forward eating expressed by the players on the team. We know this will be another tasty way to showcase the power of pulses. Check out one of the new recipes, Black Bean Breakfast Casserole, on the next page to get a taste of what's to come!

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

References
1. Chilibeck, P. *A new superfood for athletes? Pulse Blog – Pulses.org* Jan 2015. https://pulses.org/pulse-hub/pulse-blog/174-a-new-superfood-for-athletes
2. Little, JP, et al. *Int J Sports Physiol Perform*. 2009;4(3):367-80.
3. Bennett, CB, et al. *Br J Nutr.* 2012;108 Suppl 1:S81-90.