PAYING FOR PEA PROTEIN

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A Canadian pea exporter was on a tour hosted by the companies he sold to in India. After several days of vegetarian meals, he begged for at least one meat dish. They ordered a plate for him and he gratefully ate the chicken. After dinner one asked, "How was that dish?"

"Really good. It was the best chicken I have had in a long time. Thank you!"

"It was not meat," the host replied with a smile.

The real lesson in this story is that people just want to eat certain things, even when something else is just as tasty or nutritious. Food choices are driven by personal and cultural preferences, prejudices, and cravings.

Food manufacturers are dealing with this chaos by widening their product ranges to satisfy consumer demand across a wide spectrum of desires. Some people's food choices are driven by worries about the environment. Some think about sustainability. Some just want change.

Peas fit into all of this. You can turn them into meat by feeding them to pigs. A cold winter's day can be warmed up with a steaming bowl of French Canadian pea soup. More importantly, the real value of a pea is starting to be its bits and pieces.

Millers in China have long used peas for their starch to make noodles. The new class of fractionation plants in China, Canada, United States (U.S.), and elsewhere prize the protein in peas.

High valued, protein isolate exports are small, but growing. This is reflected in imports by the U.S.. In 2015, they totaled just 78 tonnes. The following year it jumped to 339 tonnes, and almost quadrupled to 1,173 tonnes in 2017. Imports will be up sharply again this year. Between January and August year-over-year shipments jumped from 802 to 1,116 tonnes.

Imports are not broken down by type, but it is reasonable to believe that they will keep rising as long as new fractionation plants are being built in Canada. At a minimum, these plants separate peas into protein, starch, and fibre fractions.

The plants and processes are not cheap, but it appears that the protein fraction is the most valuable. The averaged declared value of protein isolates imported by the U.S. was over $11,000 per tonne in 2015, but has dropped to $5,908 so far this year. Falling values reflect a shift from retail-ready products to bulk shipments to the food industry, with some market participants saying pea protein is worth around $1,800 per tonne.

Protein levels in peas never seemed important in the past. The lack of interest is reflected in the fact that average protein levels have been trending lower. They averaged 23.4% between 2007 and 2009, but have fallen to 22.7% in the most recent five-year period. Under the Canadian Grain Commission's (CGC) voluntary harvest sample program, farmers have so far sent 328 samples of peas. Protein content is up slightly this year, ranging between 17.5% and 30.5%, with the average coming in at 23.2%. Interestingly, there is a not a strong relationship between protein content and grade.

The fractionation industry wants peas with higher average protein, while some pet food manufacturers would like minimum guarantees. By and large, however, no one has been willing to pay for protein.

The industry is trying to solve the problem in several ways. Some are developing proprietary pea varieties with higher protein and/or other properties. When they are finally released, they will surely be grown under production contracts which require farmers to deliver 100% of their production.

Over the short term, some already test for protein and pay premiums. This has irritated a few companies for two reasons. Some farmers report the price without explaining they were paid for protein.

More significantly, virtually all importers of whole or split peas buy them because they are almost always the cheapest pulse. Even if they need high protein peas, sourcing is still a problem. Few would pay a premium and few exporters will risk selling with a minimum protein guarantee.

Unlike wheat, there is not yet an agreed standard for measuring protein. As a result not many companies test for protein. More importantly, some in the fractionation industry are not sure the method used by the CGC is accurate. The implication is the seller and buyer could get different results from tests. The larger the shipment the greater the risk, unless peas are segregated by protein content in processing plants and the bulk handling system.

The market for pea protein is growing. Unfortunately, Protein Industries Canada suggests there is not even fractionation capacity to meet the needs of the domestic market, let alone the export potential. Food companies have had good results with meat substitutes based on peas and lentils, but some stopped making the products because they could not reliably source the ingredients.

The implication is that demand for high protein peas is going to keep growing, but without an incentive, farmers are not going to do as much as they can to meet the needs of this sector. Protein premiums will help. Understanding the impact of climate and agronomic practices on protein levels is also critical. New varieties should help raise average protein levels, but some of the benefits could be lost unless farmers know how their decisions and climate impact protein content, and unless the market rewards their efforts.

The market potential for higher protein peas and lentils is not limited to the fractionation trade. There are end users who may be willing to pay premiums, but unless growers and processors know what they have, no one is going to offer the guarantee and ask for a premium.

Developing this market cannot be done without farmers. The CGC's harvest

sample program gives you a chance to find out if you have high protein peas and lentils. The testing is free and it will help develop a better profile of protein levels in the Canadian crop.

If you discover you have high protein peas or lentils, you can target companies in the fractionation industry who pay for protein, and you could work with processors to discover which buyers will pay more for minimum protein guarantees.

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Saskatchewan Pea Protien Levels	2013	2014	2015	2016	2017	2018	2018	2018
	Mean	Mean	Mean	Mean	Mean	Mean	Min	Max
No. 1	21.6	23.1	21.9	21.7	22.5	23.3	19.1	28.0
No. 2	21.9	23.3	22.3	22.1	22.2	23.1	19.4	27.4
No. 3	22.7	24.2	22.4	22.8	22.7	23.3	20.3	26.5
All Grades	21.8	23.6	22.3	22.1	22.4	23.2	19.1	28.0

Canada	2013	2014	2015	2016	2017	2018	2018	2018
No. 1	21.5	23.0	21.8	21.5	22.8	23.2	17.5	30.5
No. 2	21.9	23.2	22.3	22.0	22.4	23.4	18.2	29.0
No. 3	22.8	23.9	22.2	22.8	22.6	23.3	19.1	26.7
All Grades	21.9	23.4	22.2	22.1	22.6	23.2	17.5	30.5

- *SOURCE: Canadian Grain Commission*
- *Protein content (N x 6.25) is determined by near infrared measurement calibrated against the Combustion Nitrogen Analysis reference method*

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