Opportunity starch sources for dairy diets?

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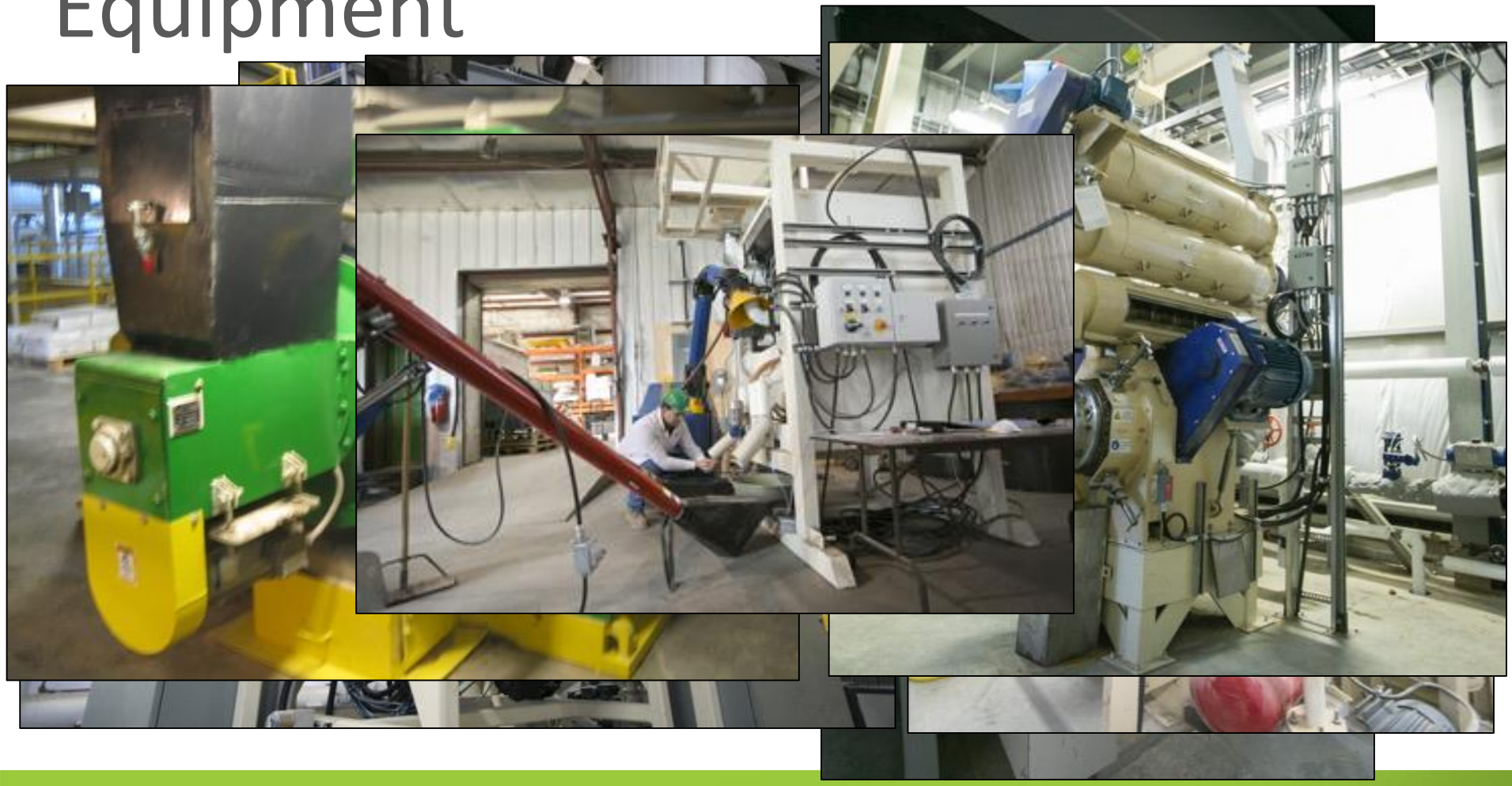
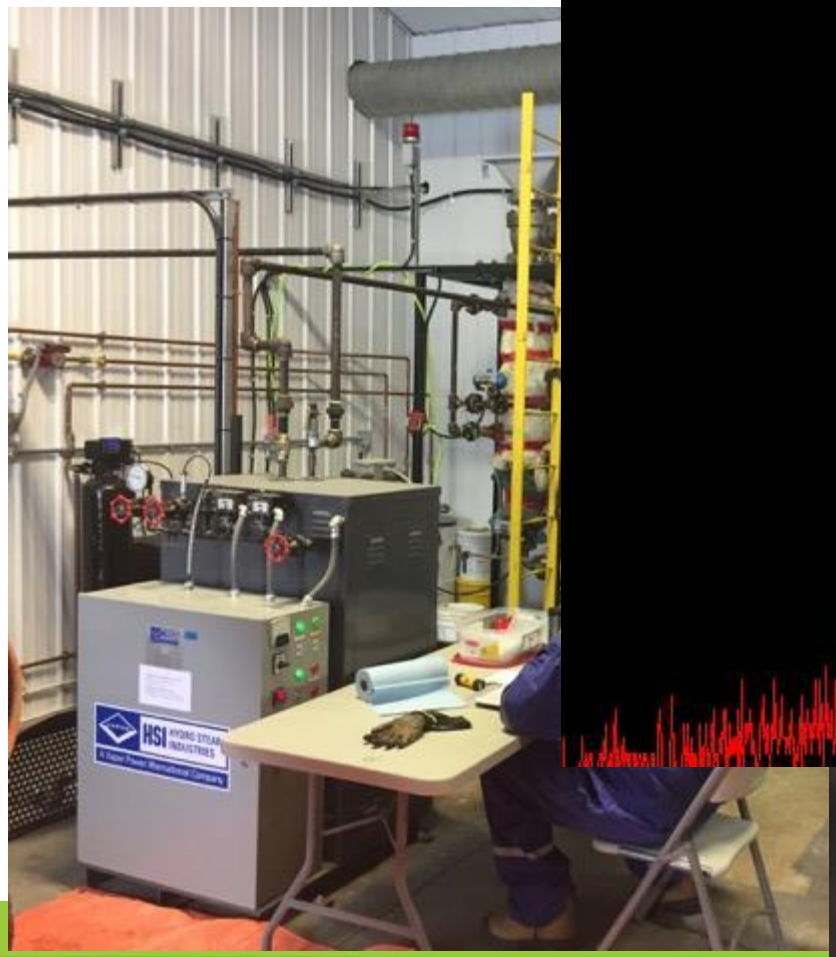
Equipment

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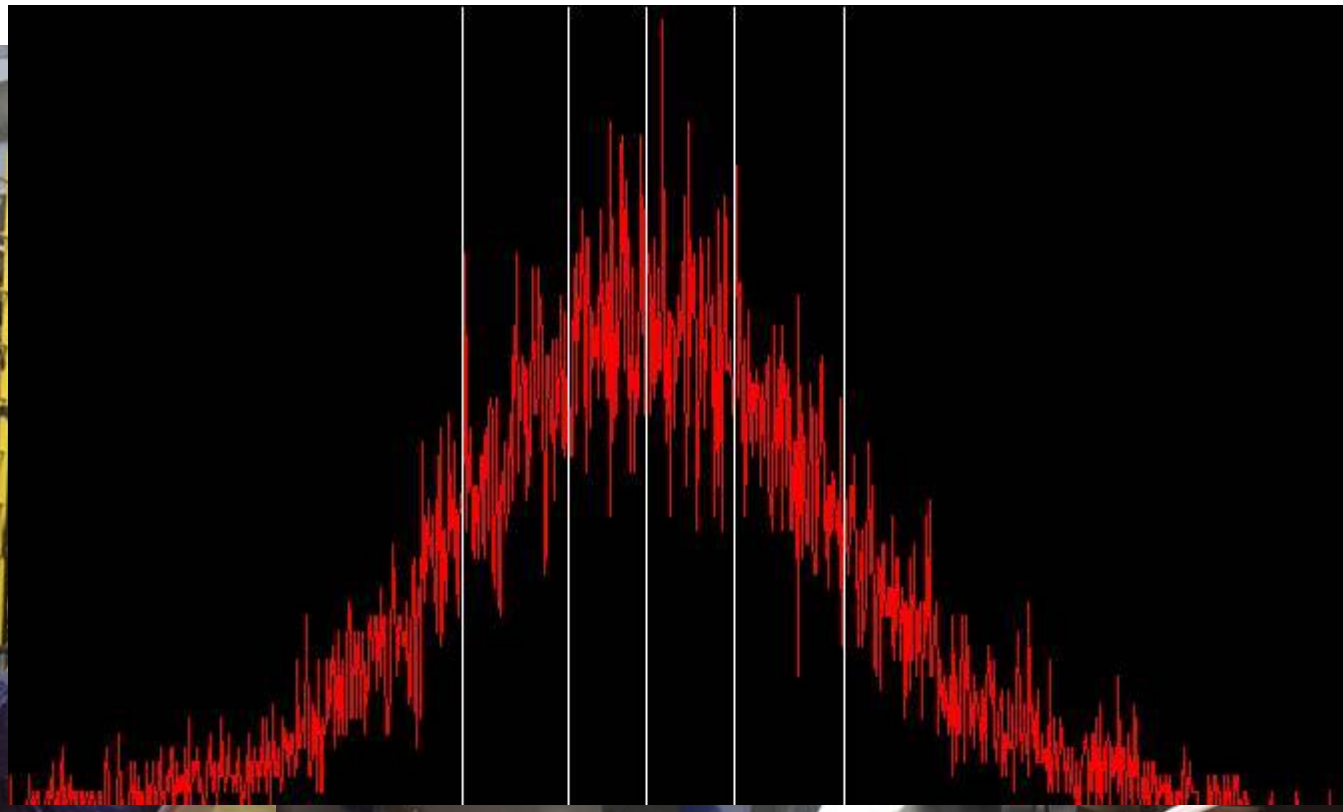


Remember to TURN
OFF the Rakes

Opportunity Ingredients

- Feed industry reliant on opportunity feed ingredients
  - Products with nutritional value but limited markets elsewhere
  - Co-products of value add processes
  - Fastest growing value add on prairies is pulse fractionation

AGT
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Pulse Ingredients

AGT Foods' PulsePlus™ product offering is a diverse portfolio of pulse ingredients, including pulse fibres, pulse proteins, starch and pulse flours and semolinas. Pulse ingredients are fine powdered materials created from the fractions of high-quality peas, lentils and chickpeas, made without the use of processing aids or chemical compounds. Pulse ingredients are food and feed-grade products that offer natural solutions to increase the nutritional value of foods without altering flavour, aroma and colour properties. Pulse ingredients are an important component for food ingredient uses and branded feed products including pet foods and aquaculture.

In addition to its portfolio of nutritious pulse ingredients, AGT Foods features a technical team with the expertise to help manufacturers develop unique diet solutions.

Contact AGT Foods to learn how our portfolio of pulse ingredients can improve your formulated food products.

Pea Fractionation

- Dehull
- Fine grind-
  - disrupt cell walls,
  - break fibre and protein into very small particles (~10 um)
  - Release starch granuals (~60 um)
  - Use airclassification to separate
  - Market driver is the protein – need volume markets for starch

Plant proteins
Threat or Opportunity?

- Growing demand for plant proteins **BUT** protein concentration produces large quantities of by-products and willing to sell at reasonable prices
- Fibre (hulls)
- Starch (not pure, contains significant protein and some fibre)
- Livestock industry developed on principle of turning low value by-products into high quality and tasty protein and fat

VerdientFoods

SPECIFICATION SHEET

NAME OF PRODUCT: Dry Fractionated Pea Starch (Pea Starch Concentrate)

DESCRIPTION	Finely ground concentrated starch produced from 100% Canadian Yellow Field Pea (*Pisum sativum* L.)
LABELLING	Pea flour, pea starch
SENSORY	creamy yellow in colour, odour and flavour are typical of pea starch
PACKAGING	1000kg and/or 1250kg totes

CHEMICAL AND NUTRITIONAL CHARACTERISTICS	
Moisture	6-10%
Protein (Dry basis)	11-14%
Ash	0-3.5%
Fat	0-3%
Starch	65-80%
Fiber (Crude)	0-1.5%

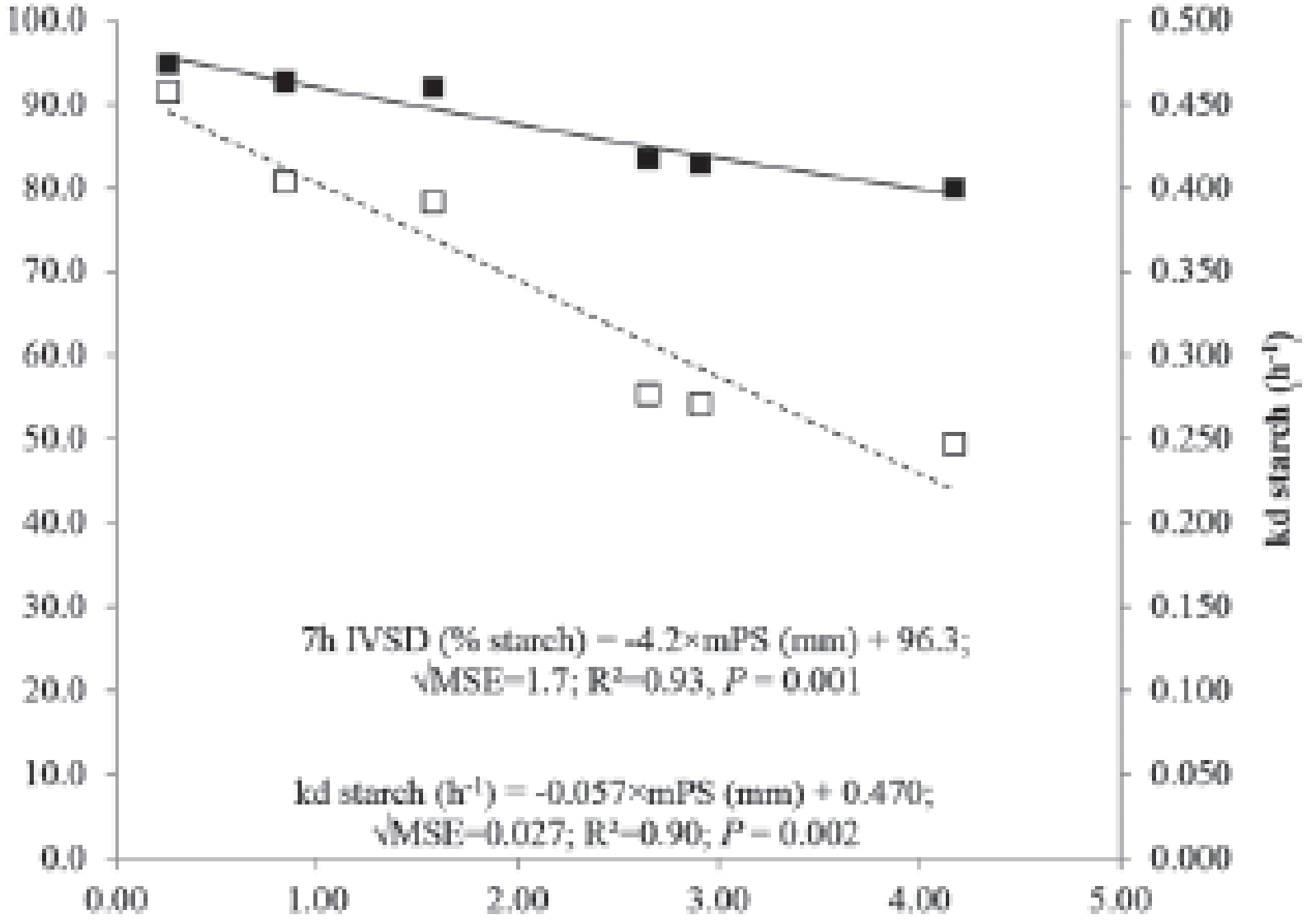
MICROBIOLOGICAL CHARACTERISTICS	
Standard Plate Count	50,000 cfu/g Maximum
Yeast and Mold	2,000 cfu/g Maximum
E. Coli	10 cfu/g Maximum
Salmonella	Negative Maximum
Storage Conditions	This product has the longest shelf life in cool and dry conditions
Shelf Life	24 months from date of production

Nutrition Facts
Valeur nutritive
Serving Size about 3/4 cup (100 g)
Portion environ 3/4 tasse (100 g)

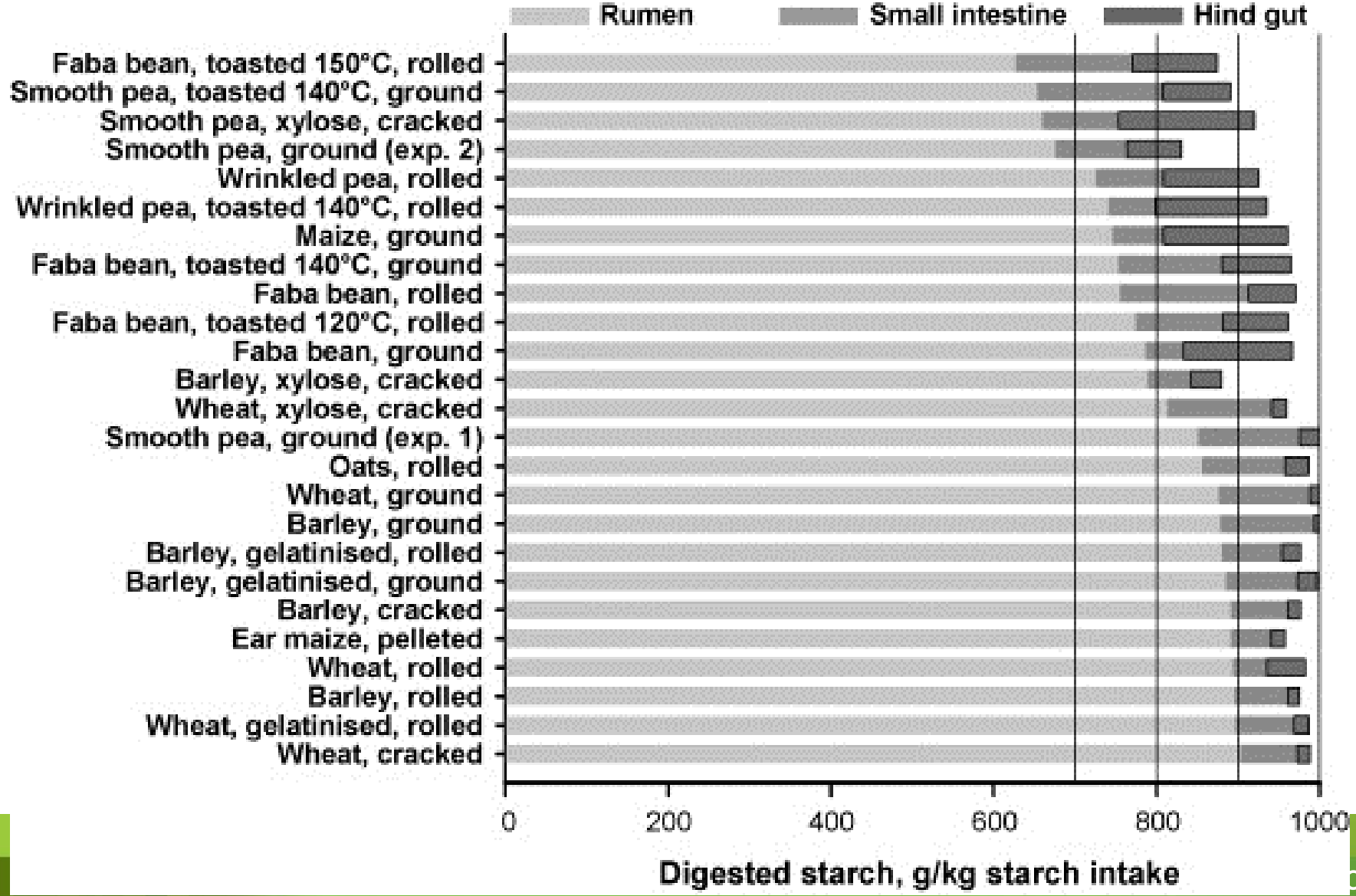
Amount / Teneur	% Daily Value / % valeur quotidienne
Calories / Calories 380	
Fat / Lipides 5 g	**8** %
Saturated / saturés 1 g + Trans / trans 0 g	**5** %
Cholesterol / Cholestérol 0 mg	
Sodium / Sodium 3 mg	**1** %
Carbohydrate / Glucides 70 g	**23** %
Fibre / Fibres 5 g	**20** %
Sugars / Sucres 0 g	
Protein / Protéines 12 g	
Vitamin A / Vitamine A	0 %
Vitamin C / Vitamine C	0 %
Calcium / Calcium	2 %
Iron / Fer	25 %

Peas in ruminant rations

- No data on pea starch
- Protein solubility high in peas (Vander Pol et al, 2009)
- High inclusion level of ground or rolled peas (>150 g/kg DM) depressed feed intake (Vander Pol et al, 2009) but most others do not observe this (Vander Pol 2008).
- Normally avoid small particle size as it promotes rapid VFA production, increases total digestibility



Gallo et al, 2018



Larson et al, 2009

Pea starch

- Potential opportunity to add energy and protein to diet
- Starch digestibility in ground peas less than other cereals
- Fine pea starch likely well utilized in Rumen and small intestine
- Need to restrict the amount in diet due to rapidly fermentable nature of fine starch
- Amount available locally will continue to increase

Contact information

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