Describe the composition and contribution of feed nutrients used for pigs, and formulate diets for pigs

Level 5
Credits 10

Purpose
This unit standard is for people who wish to specialise in pork production unit management.

People credited with this unit standard are able to: describe the contribution of feed nutrients to pig growth and performance, ingredients used in pig feeds, and digestibility of feeds; describe cost effective nutrient requirements for pigs; and formulate cost effective diets for pigs.

Subfield Pork Production
Domain Pig Health and Nutrition
Status Registered
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Accreditation
Evaluation of documentation and visit by NZQA, industry and teaching professional in the same field from another provider.

Standard setting body (SSB) Primary Industry Training Organisation
Accreditation and Moderation Action Plan (AMAP) reference 0052
This AMAP can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Special notes

1 Legislation relevant to this unit standard includes but is not limited to the Health and Safety in Employment Act 1992.

Industry Text

Definitions
Pork production unit – collective term for several pork production sections. For example, a farrowing section, a grower section, and a dry sow section together make up a pork production unit.
Cost effective – diets that meet the nutrient requirements of the pig, and which are as financially economical as possible.

Elements and performance criteria

Element 1

Describe the contribution of feed nutrients to pig growth and performance, ingredients used in pig feeds, and digestibility of feeds.

Performance criteria

1.1 Feed nutrients are described in terms of their contribution to pig growth and performance.

Range  energy, protein, vitamins, minerals, water.

1.2 Pig feed ingredients are described in terms of their nutrient composition and availability as a nutrient.

Range  ingredients may include but are not limited to – barley, wheat, maize, meat and bone, blood meal, skim milk powder, whole milk powder, fats, oil, soya meal, fishmeal, peas, synthetic amino acids, limestone, salt, triticale.

1.3 Pig feed ingredients are described in terms of their digestibility by pigs.

Range  ingredients may include but are not limited to – barley, wheat, maize, meat and bone, blood meal, skim milk powder, whole milk powder, fats, oil, soya meal, fishmeal, peas, synthetic amino acids, limestone, salt, triticale.

1.4 Pig feed ingredients are assessed in terms of the presence of anti-nutritional factors in accordance with industry text.

Range  ingredients may include but are not limited to – barley, wheat, maize, triticale, flava beans, copra; anti-nutritional factors may include but are not limited to – mycotoxins, tannins, trypsin inhibitors; evidence is required for at least three ingredients.
Elements 2

Describe cost effective nutrient requirements of pigs.

Range  gilts, lactating sows, mating sows, sows during gestation, boars, piglets,
weaners, growers, dry sows.

Performance criteria

2.1 Cost effective nutrient requirements for pigs are described in terms of pig
factors, feeding factors, and production objectives.

Range  nutrients – energy, protein, vitamins, minerals, water;
pig factors related to energy – genotype, gender, body fat;
pig factors related to protein – levels and balance of amino acids,
protein deposition rates, age effects, genotype, gender;
feeding factors – growth rate requirements;
method of feeding – ad libitum;
production objectives include but are not limited to – lean meat
production.

Element 3

Formulate cost effective diets for pigs.

Range  weaner, grower, dry sow, gilts, lactating sows, mating sows, sows during
gestation, boars, piglets.

Performance criteria

3.1 Minimum daily nutrient requirements are determined and expressed on a per
kilogram of feed per day basis.

Range  energy, crude protein, amino acids, minerals.

3.2 Feed ingredients are evaluated for nutritional composition and selected for their
contribution to pigs’ daily nutrient requirements and absence of anti-nutritional
factors.

Range  barley, wheat, maize, meat and bone meal, blood meal, fishmeal,
soya meal, fat, limestone, skim milk powder.

3.3 Commonly available feed by-products are evaluated for nutritional composition
and selected for their contribution to pigs’ daily nutrient requirements.

Range  may include but is not limited to – whey, bread, biscuits, cheese;
evidence is required for at least three.

3.4 Balanced and cost effective diets are formulated in accordance with pig nutrient
requirements.
Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.