

# Australian Pork Limited

AUSTRALIAN  
Pork™

**Evaluation of the timing and dosage of Improvac® vaccine and effectiveness in pigs of differing liveweights to control boar taint compounds and pork quality.**



## Request for proposal

### Evaluation of the timing and dosage of Improvac<sup>®</sup> vaccine and effectiveness in pigs of differing liveweights to control boar taint compounds and pork quality

#### Background

Boar taint is an unpleasant odour and flavour detected in the cooking of pork from entire male pigs. Consumers of pork have long been aware of the risk of their pork purchase failing to meet expectations due to unpleasant taste or smell or other unsatisfactory quality characteristics such as lack of tenderness. Because of a poor eating experience, some consumers will buy pork less frequently or may stop. Australian Pork Limited is committed to reducing product failure rates from all causes, including boar taint.

Boar taint is caused by compounds such as androstenone, skatole, and, to some extent, indole in the fat of entire male pigs. Threshold concentrations above 1.0 µg/g in subcutaneous fat for androstenone and above 0.20 µg/g for skatole have been shown to cause negative consumer reactions. Immunisation against gonadotropin-releasing factor (GnRF) is an effective means of controlling boar taint. Improvac<sup>®</sup> immunises against GnRF, thereby inhibiting sexual development. Improvac<sup>®</sup> immunocastrates male pigs while still allowing them to have most of the same performance attributes as entire male pigs.

Improvac<sup>®</sup> use consists of a primary injection provided at about 10 weeks of age and a second vaccination provided at 4 to 5 weeks before slaughter. The manufacturer's recommendation for administration is 2 mL Improvac<sup>®</sup> at 8 weeks before slaughter, followed by 2 mL Improvac<sup>®</sup> 4 weeks before slaughter, with no more than 4 weeks between the two vaccinations. In the case of pigs kept longer than 7–8 weeks after the second dose, GnRF antibodies may decline below effective levels, allowing return of testicular function and risk of boar taint accumulation.

#### Current project

APL is seeking proposals for a project to evaluate the timing and dosage of Improvac<sup>®</sup> vaccine and its effectiveness in pigs of differing start and end liveweights to control boar taint compounds and not impact pork quality. This project is aimed at addressing the following:

- 1) Do heavier pigs have higher levels of androstenone, skatole and indole after the recommended two Improvac<sup>®</sup> vaccinations?
- 2) Does an increase in timing between the 1<sup>st</sup> and 2<sup>nd</sup> Improvac<sup>®</sup> vaccination affect the level of androstenone, skatole and indole?
- 3) Do heavier pigs need a third vaccination to keep the level of boar taint compounds below the sensory thresholds?
- 4) Optimising dosage for regular and heavier pigs, effects on production parameters, and aspects of eating quality.

It is expected that the project proposal will cover the following parameters:

1. Production indices (bodyweight, growth rate, feed intake, feed conversion ratio).
2. Body lesions (as an indicator of animal welfare).
3. Seminal vesicle weight, bulb weight.
4. Carcase quality (HSCW, P2, dressing percentage).
5. Objective measures of pork quality (pH, drip loss, colour, shear force, cook loss).
6. Levels of boar taint compounds.
7. Immunological response to vaccines.
8. Return on investment.

## Timeline

Date	Activity
28/11/2024	Applications open
20/12/2024	Applications close at 5 pm
15/02/2025	Notification of proposal review outcome
20/02/2025	Issue of Provider Agreement for successful applications and commencement of project

## How to make a submission

Register or log in via PigConnect - <https://pigconnect.australianpork.com.au/>

- Submit and manage Project Applications
- View and manage your in-progress Projects
- Review Project Applications referred to you

## Contact

If you are interested in applying and have further questions, please contact:

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