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Additional shade to improve outdoor sow welfare and production: A project investigating shade over wallows during summer

This note presents key points from a project conducted from 2023 to 2026 to assess the value of shade constructed over wallows used by outdoor sows in Western Australia.

- High summer temperatures in Western Australia (WA) can induce heat stress, resulting in significant adverse effects on sow productivity in both indoor and outdoor production systems.
- Outdoor sows, representing approximately 25% of the sow herd in WA, are likely to be more negatively affected in summer regarding their welfare, physiology, reproductive success and survival.
- Piglets born to heat-stressed sows may accumulate adipose tissue (fat) at the expense of lean tissue during later growth stages, reducing the economic value of the carcase.
- A wallow, in the context of outdoor pig production, is a natural or artificial depression containing water or mud, where pigs can cool themselves in hot weather.
- Outdoor sows will seek wallows and, or shade to mitigate the effects of heat.
- Findings from this project suggested that the provision of shade over wallows accessed by outdoor gestating sows in summer improved their welfare during hot weather by reducing heat stress as indicated by sows preferring shaded wallows, particularly when the weather was warm.
- This study demonstrated that shaded wallows maintained lower mud temperatures and lower air temperatures above the wallow surface than unshaded wallows.
- A simple economic analysis indicated that providing shade over wallows in summer can be viable particularly if a monetary benefit can be assigned to production and welfare benefits.
- This finding is further supported if the cost of water increases or if shading reduces the volume of water required to maintain the cooling effectiveness of wallows.
- The APIQ✓® Standards for Free Range and Outdoor Bred, Raised Indoors on Straw state that wallows are to be provided where State regulations and the season permits; AND/OR shade (including but not limited to trees, tree lines, hedges, shade stands), sprinklers, or other mechanical means are provided to cool pigs when necessary.
- Given these requirements, and the possibility of shade structures over mud wallows being an economically superior option to those over water wallows, producers may look to reducing the level of water in wallows when providing shade over wallows.
- It is recommended that further work be conducted to examine the effect of shaded wallows on outdoor sow reproductive performance during summer and follow progeny through to slaughter.
- In addition, the drying climate highlights the need for continued innovation to improve the efficiency of water use in outdoor pig production systems.
- An abstract based on findings from this project was accepted for presentation at the 2025 Australasian Pig Science Association (Inc) Conference, and a technical forum was delivered to pork producers in Albany, WA, on 1st September 2026, to further enhance this discussion.



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