

Effects of cleaning corn on pig growth performance

L.M. Tischhauser*, A.D. Yoder, C. K. Jones

Department of Animal Sciences and Industry, Kansas State University, Manhattan

Introduction

- Prior to storage, grain producers frequently clean corn to reduce broken corn and foreign material.
- Recent research from our laboratory has also demonstrated that cleaning corn reduces fumonisin level by 45 to 60%.
- Removing small corn particles may reduce starch digestibility, so it is unknown if cleaning corn negatively affects nursery pig growth performance.

Objective

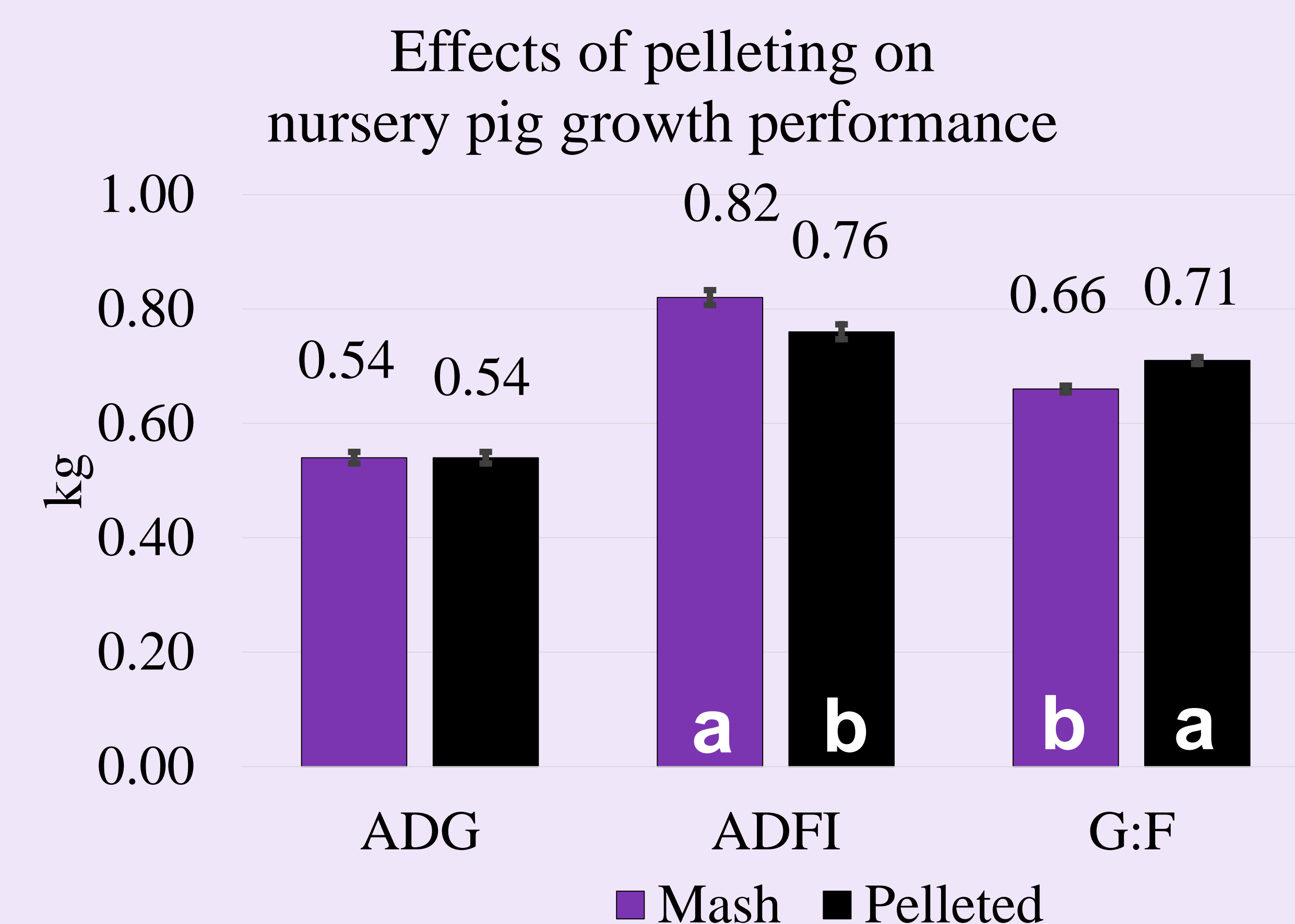
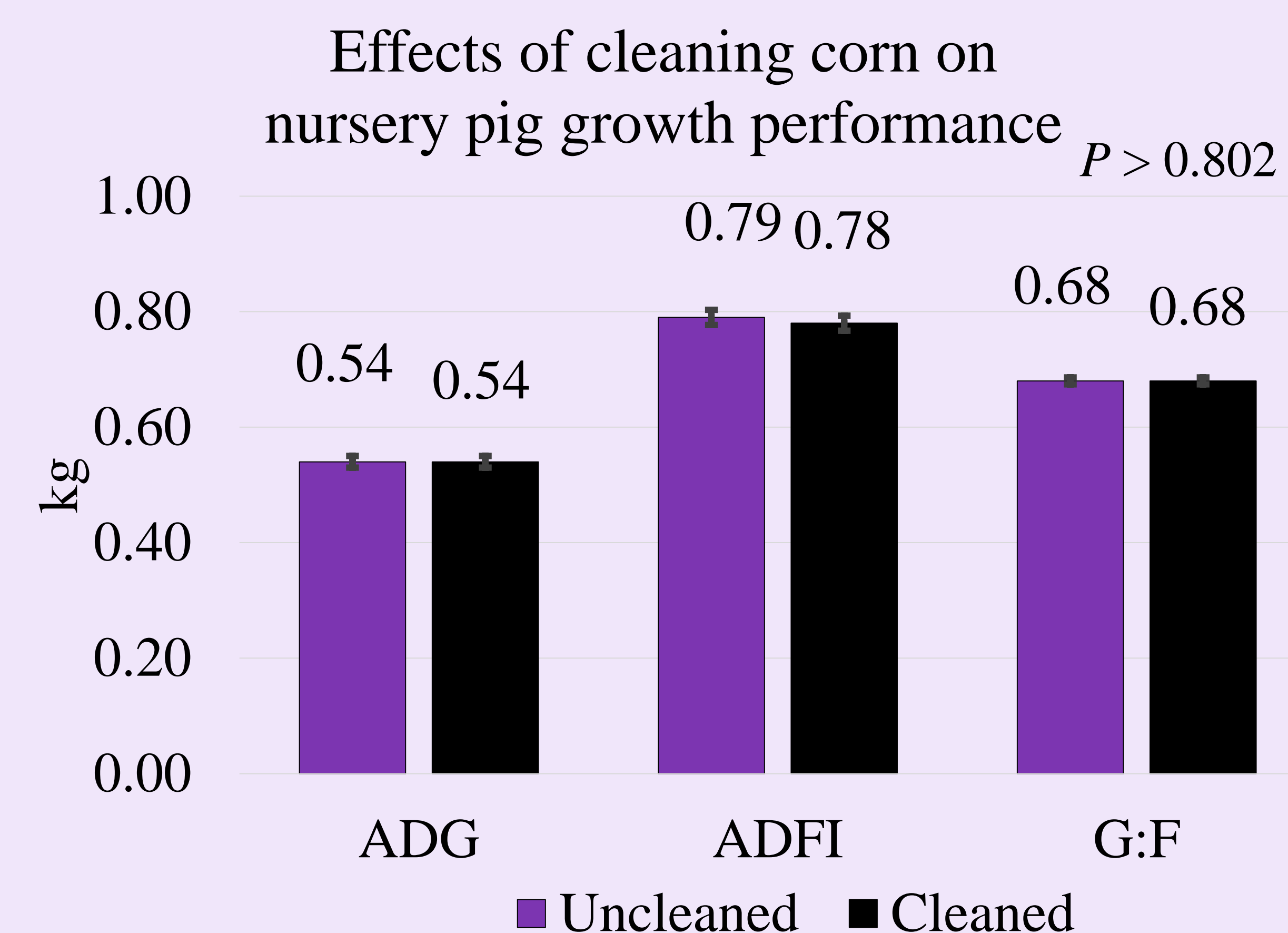
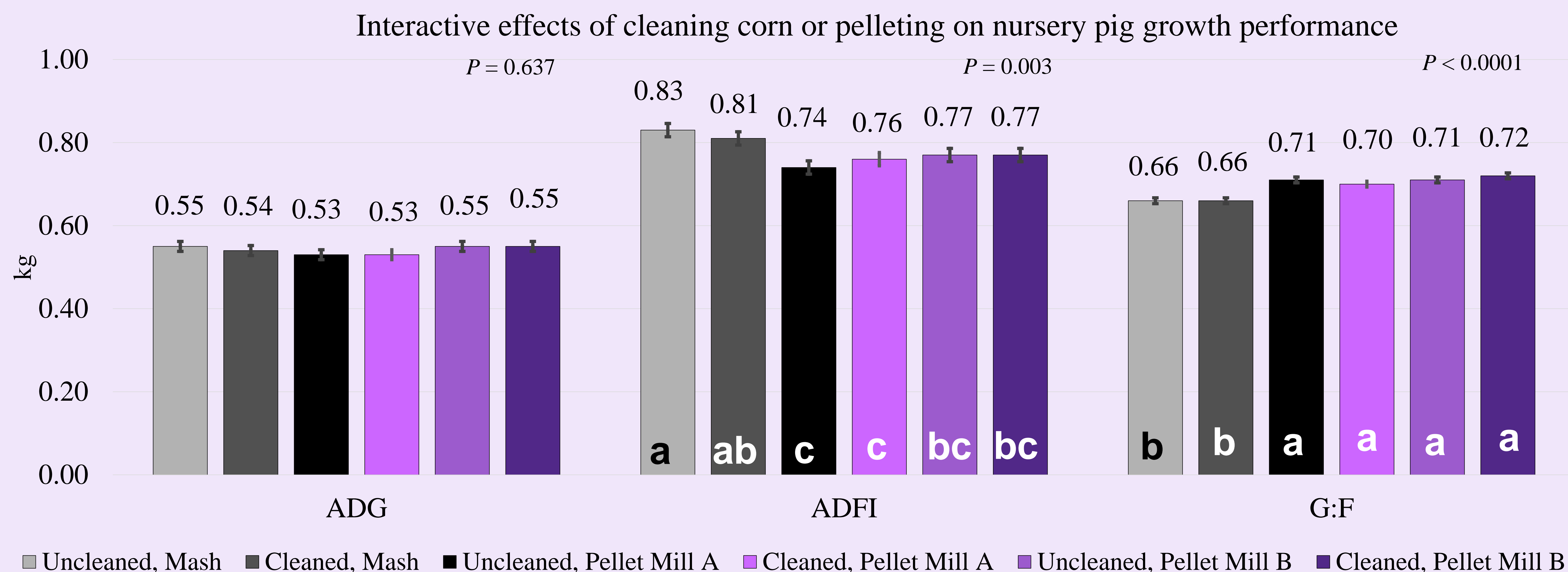
- To determine the effect of cleaning corn in mash diets or diets pelleted on one of two different pellet mills on nursery pig growth performance.

Material and Methods

- A total of 360 nursery pigs (initially 8.8 kg BW) were utilized in a 28-d-experiment.
- 2 × 3 factorial with corn type (unclean vs. cleaned) and feed form (mash vs. type A vs. type B pellet mill) created the six experimental treatments: 1) unclean-mash, 2) clean-mash 3) unclean-type A, 4) clean-type A, 5) unclean-type B, 6) clean-type B.
- Type A and type B were a 3016-4 and 1012-2 series pellet mill, (California Pellet Mill Co., Crawfordsville, IN) respectively.
- Corn particle size (400-500µm), conditioning temperature (85°C ± 2°C), and conditioner retention time (30s) were held constant across all pelleted diets.
- Pigs and feeders were weighed weekly to determine ADGI, ADFI, and G:F.
- Data were analyzed using the GLIMMIX procedure of SAS.



Results



Conclusions

- Neither cleaning corn nor pellet mill type affected the growth performance of nursery pigs.
- Pelleting improved nursery pig feed efficiency by 7.5%, primarily by reducing feed disappearance.
- Future research is needed to understand drivers of pelleting response on nursery pig ADG.