

# Effects of feeding IGP on the growth performance of grow-finish pigs.



## OVERVIEW

### Experimental Design

- 1,152 pigs (initial BW = 66.1 lb) were allotted into 12 pens per treatment with 24 pigs/pen
- Dietary treatments were fed for 108 days in a 5-phase feeding program

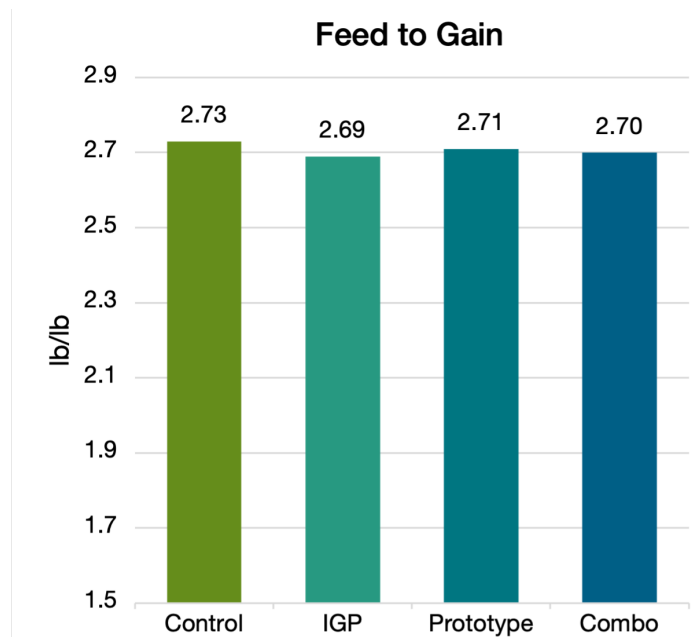
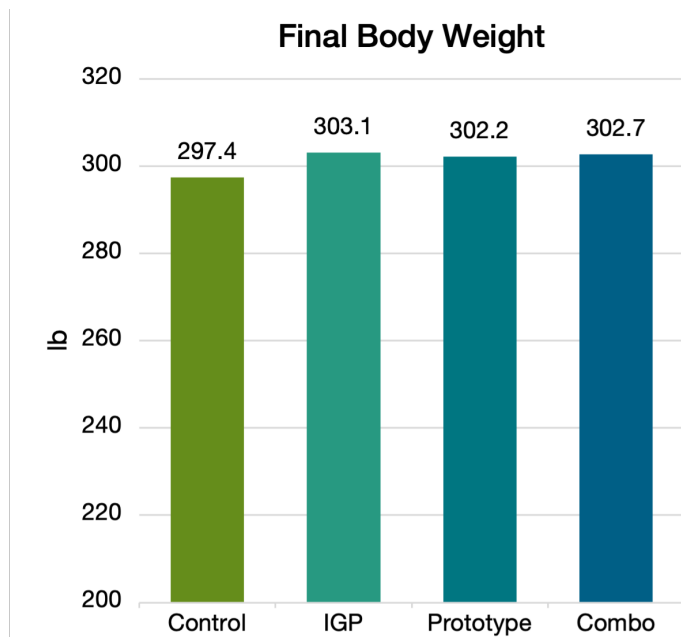
### Treatments

- A: Negative Control
- B: IGP
- C: Prototype Additive
- D: IGP + Prototype Additive (Combination)

## RESULTS

- IGP resulted in +5.7 lb body weight on day 67 and day 108 compared to the control and improved FCR by 1.5% compared to the control.
- The prototype additive numerically improved body weight but was not additive to IGP.
- The inclusion of IGP resulted in a 3:1 ROI with \$110 cwt carcass weight and a 2:1 ROI with \$80 cwt carcass weight.

|                      | Control | IGP   | Prototype | Combination |
|----------------------|---------|-------|-----------|-------------|
| Day 67 BW, lb        | 205.9   | 211.6 | 208.5     | 209.2       |
| Day 108 BW, lb       | 297.4   | 303.1 | 302.2     | 302.7       |
| ADG (d 0-108), lb    | 2.13    | 2.18  | 2.17      | 2.17        |
| ADFI (d 0-108), lb   | 5.78    | 5.89  | 5.87      | 5.88        |
| F:G (d 0-108), lb/lb | 2.73    | 2.69  | 2.71      | 2.70        |



# Effects of feeding a feed additive containing humic substances (IGP) on the growth performance of grow-finish pigs.

Molly McGhee<sup>1</sup>

<sup>1</sup>Cargill Animal Nutrition, Lewisburg, OH 45338

An experiment was conducted to test the hypothesis that inclusion of a humic substances-based feed additive [IGP] alone or in conjunction with a new prototype feed additive in diets for grow-finish pigs would improve growth performance. In total, 1,152 pigs [30.0 ± 0.4 kg body weight (BW)] were allotted to 12 replicate pens per treatment (24 pigs per pen). Pens were blocked by location within barn and randomly allotted to 4 treatments in a 2 x 2 factorial arrangement: (A) control, (B) IGP, (C) prototype additive, and (D) combination of IGP and prototype additive. Pigs were fed experimental diets in a 5-phase feeding program, and diets contained corn, soybean meal, and corn DDGS. Pig and feed weights were recorded approximately every two weeks. All pens were topped on day 83 to remove 2 – 4 pigs, leaving 20 – 21 pigs (equal number within blocks and across treatments) remaining in the pen after topping. An equipment failure with the pen scale resulted in weights not being obtained for the pigs removed from pens during topping. As such, growth performance data presented for day 0 – 67 includes all pigs on test, whereas data presented for the overall period (day 0 – 108) is based on the performance of the 20 – 21 pigs remaining on test after topping and estimated weights of missing pigs based on pen average from the preceding weigh date. Data were analyzed using the lme4 package of R 4.1.2, and the statistical model included the fixed effects of IGP, prototype additive, and their interaction, as well as the random effects of block and initial body weight covariate.

Body weight on day 67 tended to be greater ( $P < 0.10$ ) when IGP was fed. A tendency for an interaction ( $P < 0.10$ ) was detected for day 0 – 67 ADG, where IGP tended to increase ADG when fed alone but not in conjunction with the prototype additive. An interaction ( $P < 0.05$ ) was also observed for day 0 – 67 F:G with the greatest F:G being observed in the IGP treatment. Final BW on day 108 was numerically greatest for IGP ( $P = 0.12$ ). A tendency for an interaction ( $P < 0.10$ ) was observed for overall ADG, which was numerically greatest for IGP. Similarly, a tendency for an interaction ( $P < 0.10$ ) was also observed for overall F:G, which was most improved by IGP.

In conclusion, IGP alone but not with the prototype additive numerically increased final BW and tended to increase overall ADG and F:G.

**Table 1.** Effects of feeding a feed additive containing humic substances (IGP) on the growth performance of grow-finish pigs.

|                              | Treatment |       |           |             | SE    | P-Values |           |             |
|------------------------------|-----------|-------|-----------|-------------|-------|----------|-----------|-------------|
|                              | Control   | IGP   | Prototype | Combination |       | IGP      | Prototype | Interaction |
| <b>Day 0 – 67</b>            |           |       |           |             |       |          |           |             |
| Initial BW, kg               | 30.0      | 30.0  | 30.0      | 30.1        | 0.44  | 0.879    | 0.895     | 0.943       |
| Final BW, kg                 | 93.4      | 96.0  | 94.6      | 94.9        | 1.40  | 0.053    | 0.954     | 0.161       |
| ADG, kg/d                    | 0.94      | 0.98  | 0.96      | 0.96        | 0.02  | 0.058    | 0.982     | 0.054       |
| ADFI, kg/d                   | 2.39      | 2.40  | 2.39      | 2.41        | 0.02  | 0.374    | 0.777     | 0.876       |
| F:G, kg/kg                   | 0.396     | 0.409 | 0.404     | 0.399       | 0.010 | 0.322    | 0.699     | 0.005       |
| <b>Day 0 – 108 (Overall)</b> |           |       |           |             |       |          |           |             |
| Final BW, kg                 | 134.9     | 137.5 | 137.1     | 137.3       | 0.94  | 0.121    | 0.266     | 0.192       |
| ADG, kg/d                    | 0.97      | 0.99  | 0.97      | 0.99        | 0.008 | 0.062    | 0.182     | 0.090       |
| ADFI, kg/d                   | 2.62      | 2.67  | 2.66      | 2.67        | 0.018 | 0.101    | 0.269     | 0.189       |
| F:G, kg/kg                   | 0.366     | 0.372 | 0.370     | 0.371       | 0.002 | 0.017    | 0.263     | 0.089       |

