



New generation high protein dried distillers grain in White Leghorn laying hen diets



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Background Info & Problem Statement

- Background:

- Poultry professionals are continually looking for ways to make production more efficient.
- DDGs have become a popular protein source in livestock diets over the years
 - Byproduct of ethanol production = more sustainable
- Hi-Pro DDG
 - A concentrated form of DDG with a high protein concentration and a lower fiber content
 - Potential to replace large portions of soybean meal and corn in poultry diets

- Purpose:

- To investigate the acceptability of Hi-Pro dried distillers grains in White Leghorn laying hen diets on egg production parameters, feed intake, and apparent metabolizable energy.



Materials & Methods

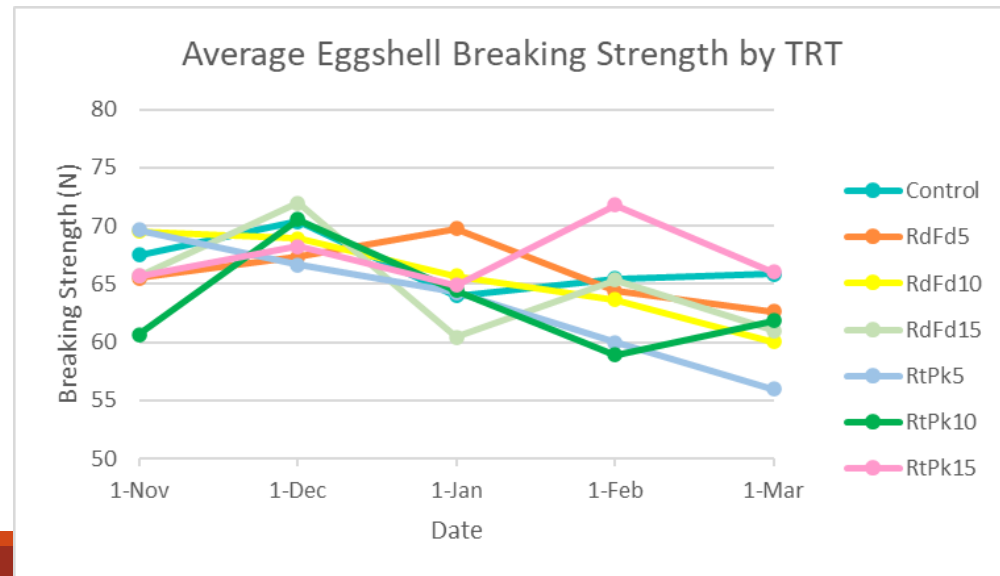
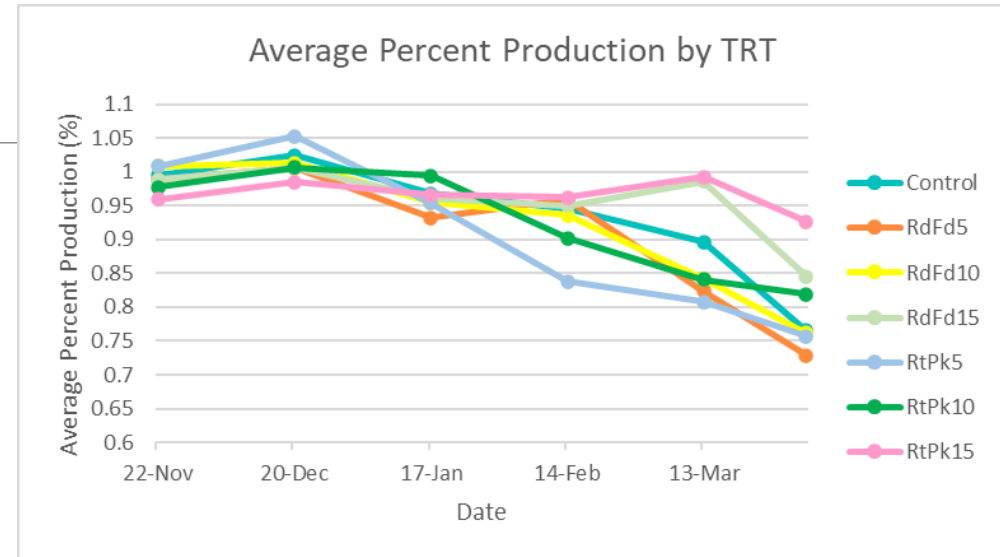
- 212 Shaver White Leghorn laying hens:
 - 21 weeks of age at the start of the trial
- Housed in 63 cages for 24 weeks:
 - Each cage was assigned to 1 of 7 treatment groups
 - 9 replicate cages per treatment
 - Randomized Complete Block Design
- Diets formulated to be equal in ME, lysine, total sulfur AA content
- Source of Hi-Pro DDG:
 - ICM, Inc
 - Redfield: 40.3% protein; higher protein/lower fiber/active yeast
 - Right Pak: 39.1% protein; higher protein/lower fiber/no yeast or dissolved solids
- Measurements:
 - Daily – egg production, feed consumption, mortality
 - Biweekly – egg weights, yolk color score
 - Monthly – hen weights, eggshell breaking strength
 - End – manure (AME determination)

Number	Treatment
1	Control
2	5% Redfield DDGs
3	10% Redfield DDGs
4	15% Redfield DDGs
5	5% Right Pak DDGs
6	10% Right Pak DDGs
7	15% Right Pak DDGs

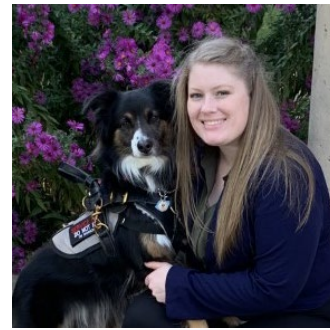


Results & Discussion

- Egg production
 - Time x TRT: $p < 0.02$
- Yolk color score
 - TRT: $p < 0.0001$
 - Time x TRT: $p < 0.003$
- Breaking strength
 - Time x TRT: $p < 0.07$
- AME
 - TRT: $p < 0.0001$
- No significant differences
 - Feed intake
 - Egg weight
 - Hen weight
 - Mortality



Conclusions



- Increased nutrient availability
- Pigment content contribution of DDGs
- Summary:
 - White Leghorn laying hens could be safely fed up to 15% of the new generation Hi-Pro DDG with no detrimental effects on performance parameters, including feed intake and egg production.

