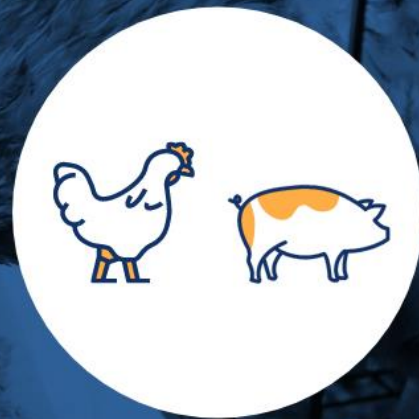


Insoluble fibre (feather pecking)



Last update: 2 June 2023

- **Type of challenge:** Animal welfare.
- **Challenges:** Feather pecking.
- **Animal category:** Poultry.
- **Action:** To enhance the metabolic processes of the animal.
- **Technique:** Adding dietary fibre (feed materials such as oat husks, straw, wheat meal, sunflower hulls and alfalfa) in the feed.
- **Mode of action:** The insoluble fraction of dietary fibre increases the flow of digesta by stimulating gastrointestinal tract development and enzyme production; laying hens and broiler parent birds spend more time and energy on their feed and are therefore less likely to exhibit pecking behaviour; insoluble fibers may also increase satiety; fiber has a beneficial effect on minimizing harmful microorganisms or parasites, which cause digestive discomfort that triggered feather pecking.
- **Potential efficacy:** Indirect effect.
- **Nature of evidence of efficacy:** Peer-reviewed scientific publications.
- **Factors impacting on efficacy:** Breed, rearing conditions, type of fibre.
- **Mode of use:** Via compound feed, or using on-farm produced grains (such as oat).
- **Requirements/limitations:** It is recommended to limit the fibre content (max 10% for laying hens, 4-7% for broiler parent birds), otherwise, the excess of fibre might reduce feed efficiency.
- **Economic consequences:** The use of insoluble fiber sources will dilute the feed nutritional value, leading to the addition of fat which can have a negative impact on feed quality; as a result, there is a risk of lower animal performance.
- **Other considerations:** Dietary fibers have effects on gut health and thereby helps animals cope with pathogenic challenge. A negative side effect can be a reduction in feed intake, which can lead to a decrease in animal performance. It is still unclear which plant fiber content and fiber source may be ideal for reducing feather pecking.
- **References:**
 - Patt *et al.* (2022). *Influence of different dietary fibre contents in the diet on feather pecking, locomotor activity and performance of laying hens*. PubMed, 2022, October 1. <https://doi.org/10.1080/00071668.2022.2076212>
 - Jiménez-Moreno *et al.* (2019). *Insoluble fiber sources in mash or pellets diets for young broilers. 2. Effects on gastrointestinal tract development and nutrient digestibility*. Poultry Science. Volume 98, Issue 6, 1 June 2019, Pages 2531-2547. <https://www.sciencedirect.com/science/article/pii/S0032579119301464?via%3Dihub>
 - A.J.W. Mens, M.M. van Krimpen & R.P. Kwakkel (2020). *Nutritional approaches to reduce or prevent feather pecking in laying hens: any potential to intervene during rearing?*. World's Poultry Science Journal, 76:3, 591-610. <https://doi.org/10.1080/00439339.2020.1772024>
- **Other techniques:** Feeding low energy diets, or roughages (eg. maize silage); increasing protein content; adding tryptophan or coarse insoluble non-starch proteins.

Charter Ambition: 4

