

USE OF DRY AND WET MICRO ALGAE IN FEEDS

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Performing an application test with dry and wet micro algae in pig feed in the pilot plant of Feed Design Lab was executed in November 2018 and January 2019 as part of the INTERREG IDEA project.

Chlorella Vulgaris in powder form (Phycom, NL) was used in a pelleting experiment with temperatures of 60, 70 and 80 degrees Celsius. The same meal with 2% Chlorella Vulgaris was used in a similar test using an expander before pelleting. Samples of meal and pelleted products were analysed.

In another test micro algae from IDEA partner Forzungs Zentrum Juelich (FZJ) in Germany were used. A frozen amount of mixed cultured micro algae was used as a pumpable wet algae product to be dosed in the conditioner, just before extruding the feed. The same product was also used to spray during vacuum coating of extruded pig feed. The dry Chlorella Vulgaris was dissolved and tested in the vacuum coater.



Wet algae used in extruded feed before drying



Sampling extruded feed after vacuum coating with wet algae



Extruded feed with wet algae vacuum coated

Results of analysis showed:

The physical quality of the produced feeds was fine. The microbiological analysis showed safe products. The chemical analysis was partly performed. Levels of ash and protein were fine. The levels of lysine and available lysine were very different and not as expected.

Because of the missing of these parameters, the conclusions on the maximum level of processing during pelleting and extruding was not possible to draw. Missing that, makes that we can only go for the safe known level of 75 degrees Celsius for maximum temperature during processing for proteins in general.

Alternative for using the micro algae in the heated process is to use the products during vacuum coating. This post pelleting application of micro algae prevents the bio-active substances to be affected by the heating process.

