



AQUASOJA

CORN DISTILLER'S DRIED GRAINS WITH SOLUBLES: APPARENT DIGESTIBILITY COEFFICIENT AND DIGESTIVE ENZYMES CAPACITIES IN EUROPEAN

SEABASS (*Dicentrarchus labrax*) AND MEAGRE (*Argyrosomus regius*)

Rui Magalhães¹

Elisabete Matos³

Tiago Aires³

Aires Oliva-Teles^{1,2}

Helena Peres¹

(rui_pedro10@hotmail.com)

Introduction

Aquafeed industry faces numerous challenges, including heavy dependence on fish meal and fish oil

Distillers dried grains with solubles (DDGS):

- Available in the market
- Relatively cheap (on a protein-cost basis)

However, evaluation of its nutritional value is required

OBJECTIVE:

Evaluate nutrient availability of 2 different sources of corn DDGS and their effect on digestive enzymes activities in European seabass and meagre juveniles

Material and Methods

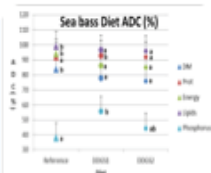
9 tanks of 60 L
Guelph system
Temperature: 22 °C
9 groups of 6 seabass (IBW: 206 g)
9 groups of 9 meagre (IBW: 79 g)

Treatments:
Reference diet (46% CP; 16% CL)
2 test diets (70% Ref and 30% of the DDGS1 or DDGS2)
Diets were fed twice daily, to triplicate groups

Feces were collected once a day for 30 consecutive days

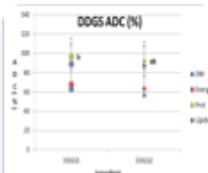
2 fish/tank
Intestine excised and divided in 3 sections (anterior, medium and distal)
Proteases (pH=8), lipase and amylase activities were measured in each portion

Sea bass



DM, CL and energy ADC > in the reference diet

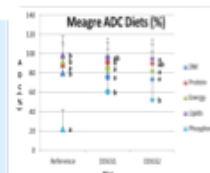
Protein digestibility of DDGS1 diet > than reference diet



ADC of DM, energy and CL was not affected by the DDGS source

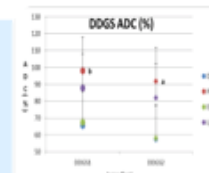
Protein digestibility: DDGS1 > DDGS2

Meagre



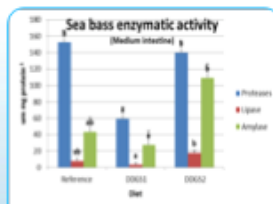
DM, CL and energy ADC > in the reference diet
ADC of protein was higher in DDGS1 diet

ADC of phosphorus was higher in the experimental diets

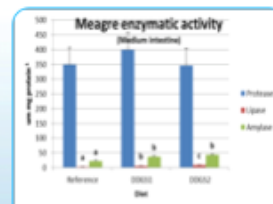


ADC of DM, energy and CL was not affected by the DDGS source

Protein digestibility was higher for DDGS1



DDGS1 increased protease, lipase and amylase activities in the medium intestine only. However, the inverse was true for the dietary incorporation of DDGS2



DDGS did not affect protease activity, but increased lipase and amylase activities in the medium intestine only



Conclusion

ADC of protein and lipids of DDGS was high in both seabass and meagre.

Dietary incorporation of DDGS₂ increased digestive enzymatic capacity of both species and this effect must be further investigated.

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²Departamento de Biologia, Faculdade de Ciências do Porto, Portugal



³SORGAL SA (www.aquasoja.pt)