INSECTS AS AN ALTERNATIVE PROTEIN SOURCE IN ANIMAL FEED

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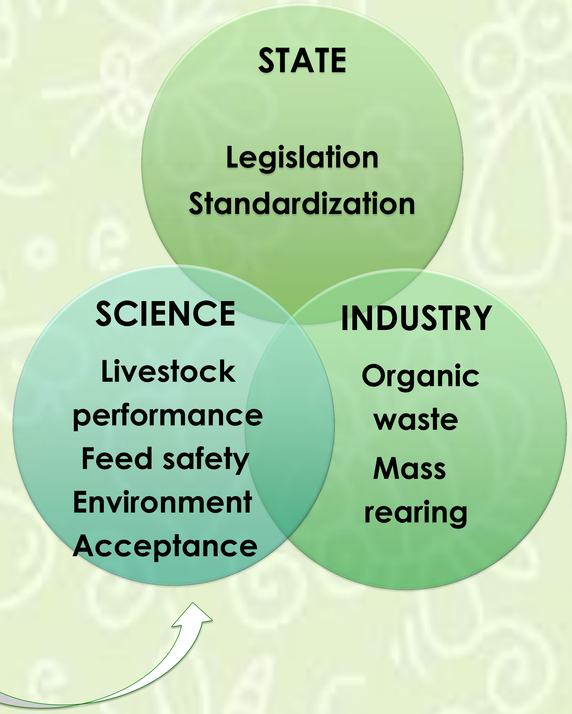
INTRODUCTION

The rising prices of conventional protein sources and the low sustainability of its production has led to study the potential of insects as a source of protein in animal feed

AIMS

- To explain the current reasons to search for alternative protein sources
- To identify the advantages of insects in animal feed and the environmental benefits
- To know the main insect species used and/or studied in animal feed
- To know the actual legislation regarding the use of insects as feed
- To establish if insects can be a good source of protein
- To present the challenges that the sector still needs to overcome



CONCLUSIONS

- ✓ Insect meal is a good candidate to replace the conventional protein sources in animal feed
- ✓ Challenges: to develop a more comprehensive legislation and to achieve a large-scale production
- ✓ Further studies are necessary to know in a better way the effects on animals performance and environment and the potential sanitary risks

STUDIED SPECIES

H. illucens | *M. domestica* | *B. mori* | *T. Molitor* | Orthoptera

PROTEIN CONTENT AND AMINO ACID PROFILE

	Protein (%MS)	Met+Cys	Val	Iso	Leu	Phe	Tyr	His	Lys	Thr	Try
						(%PB)					
Hermetia illucens	42.1	2.2	8.2	5.1	7.9	5.2	6.9	3	6.6	3.7	0.5
Musca domestica	50.4	2.9	4	3.2	5.4	4.6	4.7	2.4	6.1	3.5	1.5
Tenebrio molitor	52.8	2.3	6	4.6	8.6	4	7.4	3.4	5.4	4	0.6
Silkworm	60.7	4.5	5.5	5.1	7.5	5.2	5.9	2.6	7	5.1	0.9
Orthoptera	60.1	2.3	5	4.4	7.8	3	4.5	2.7	5.3	3.7	0.6
Average	53.2	2.8	5.7	4.5	7.4	4.4	5.9	2.8	6.1	4	0.8
Soymeal	52	2.7	4.5	4.1	7.6	5.1	3.3	3	6.2	3.8	1.3
Fishmeal	70.6	3.5	4.9	4.2	7.2	3.9	3.1	2.4	7.5	4.1	1

- Similar protein content and amino acid profile to the conventional protein sources
- Production requires lower use of resources
- Insects are capable of transforming organic waste