



Truly superior? Consumer ratings of meat from an endangered German pig breed

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Session 39: Building quality into animal products to improve the sustainability of farming systems for the future

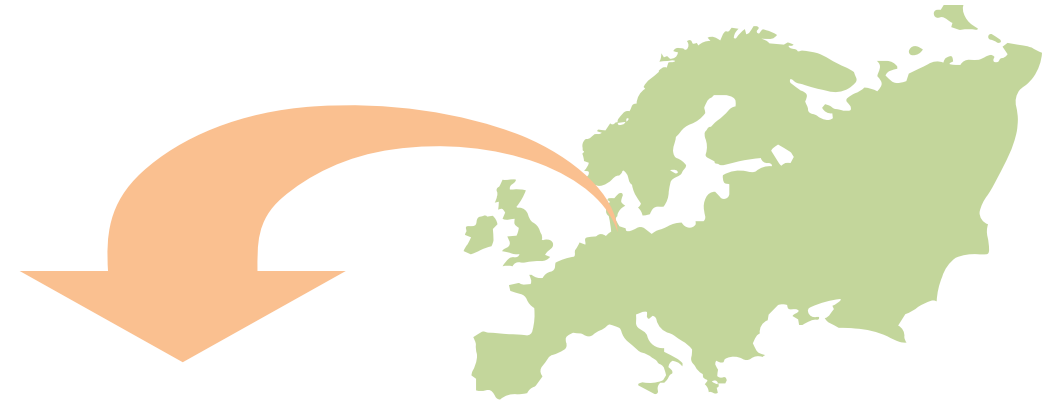
Introduction

- The Angler Saddleback pig is an **endangered** local breed originating from the North of Germany
- The breed is said to have a **high palatability** of the meat for its increased carcass fatness as compared to modern genotypes

➡ No current scientific evidence exists to date.

Aim of the study:

Evaluation of consumers' sensory appreciation of the Angler Saddleback pig meat versus the meat of more commercially used pig breeds.



[Förderverein Angler Sattelschwein e.V.]

Material & Methods: Animals

Meat of eight Angler Saddleback pigs from a fattening trial

- Fattened at the same testing station
- Different housing and feeding conditions
- Slaughtered at the same day in the same slaughterhouse

Meat of eight more commercially used breeds
("Pure German Landrace" and
"Piétrain x Duroc")

Material & Methods: Preparation of products

- The survey was carried out in a commercial sensory laboratory four days after slaughter (**without freezing** the meat) in December 2023
- A total of **81 consumers** each received two products of both breeds
- Samples were fried **four** minutes to a core temperature of 70 °C using contact grills
- Samples were served monadically in a blocked, randomized order



without subcutaneous fat (**4x4** cm)



steaks with subcutaneous fat



Material & Methods: Consumer survey and statistical analyses

- To rate their liking of **appearance**, **taste** and **overall liking** nine-point hedonic scales were used

How do you like the overall appearance of the product?

1	2	3	4	5	6	7	8	9
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Does not like at all Like it most

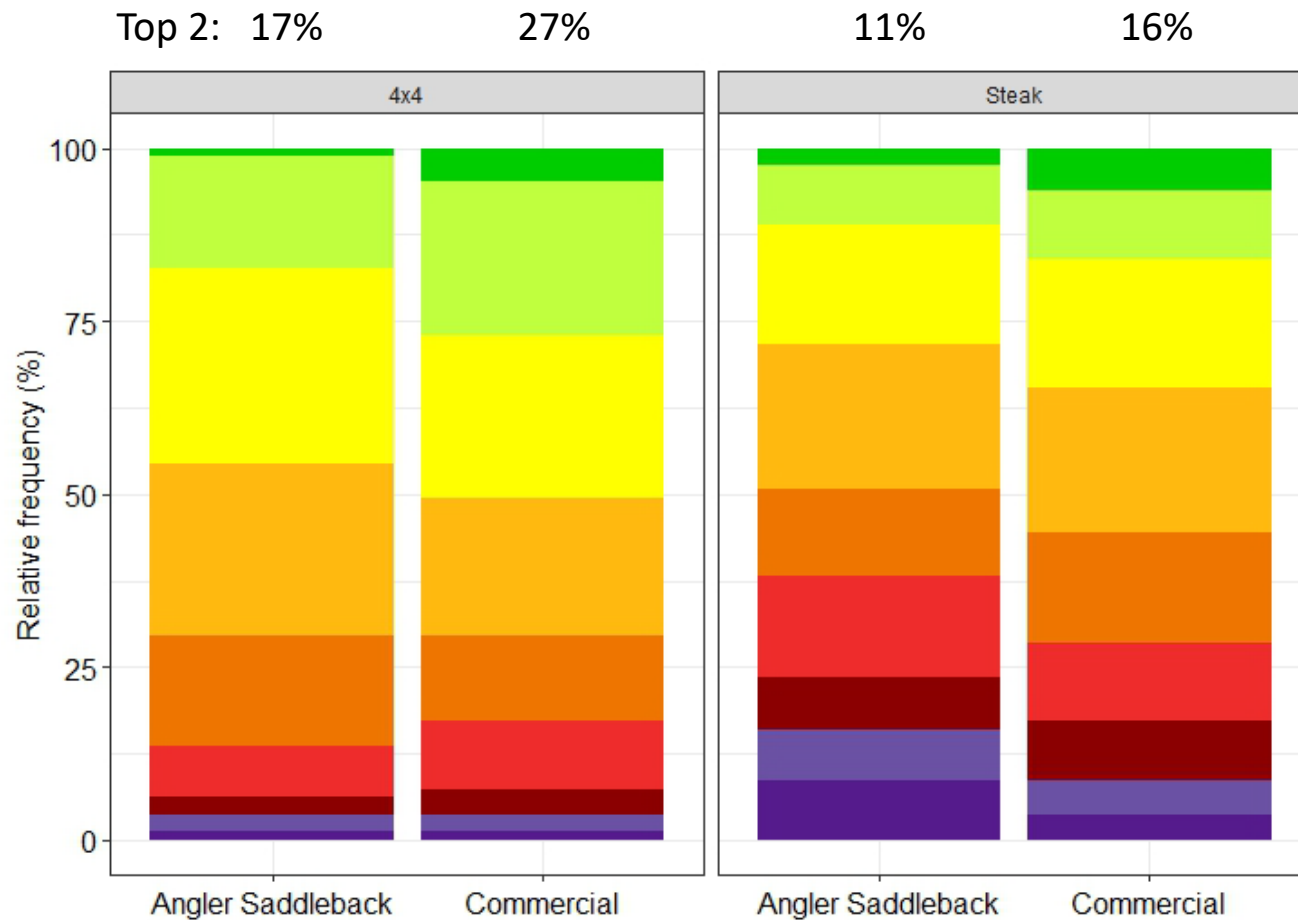
How do you rate the tenderness of the product?

- ☐ Much too tender
- ☐ A little too tender
- ☐ **Just about right (JAR)**
- ☐ A little too tough
- ☐ Much too tough

- For rating **tenderness** five-point JAR scales were applied
- Thereafter, questions were asked about knowledge of fat in pork, preferences when buying pork and knowledge of endangered breeds
- Statistical analysis using R:
 - Mixed models were built for testing the influence of the independent variables „breed“, „type of product“ and their interaction
 - In case of the JAR scales generalized linear mixed models were used and the χ^2 -test was applied to evaluate the influence of the high and low attributes



Results: Appearance

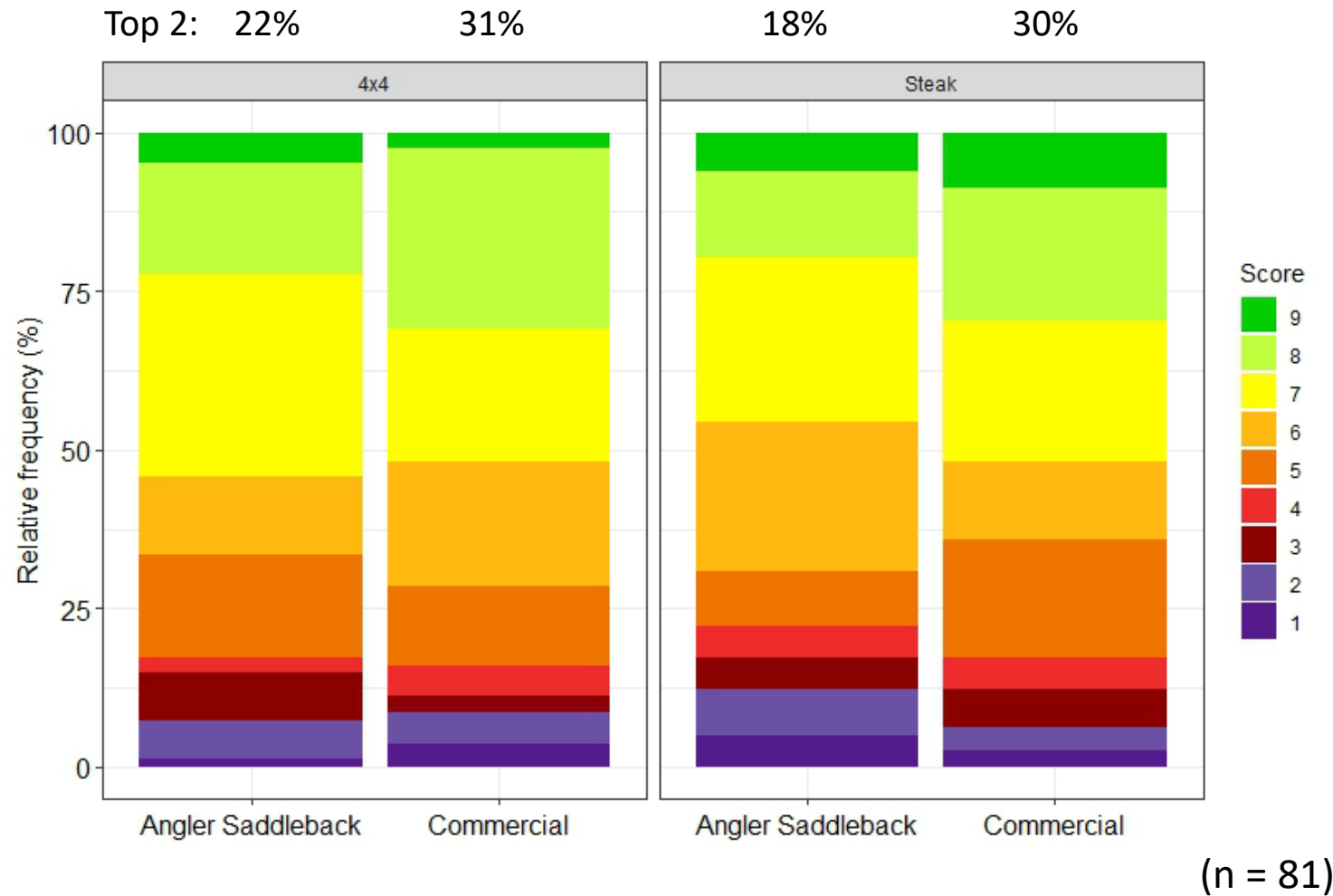


(n = 81)

- No difference between the breeds were found ($p=0.59$)
- The pieces without subcutaneous fat were rated better ($p<0.01$)

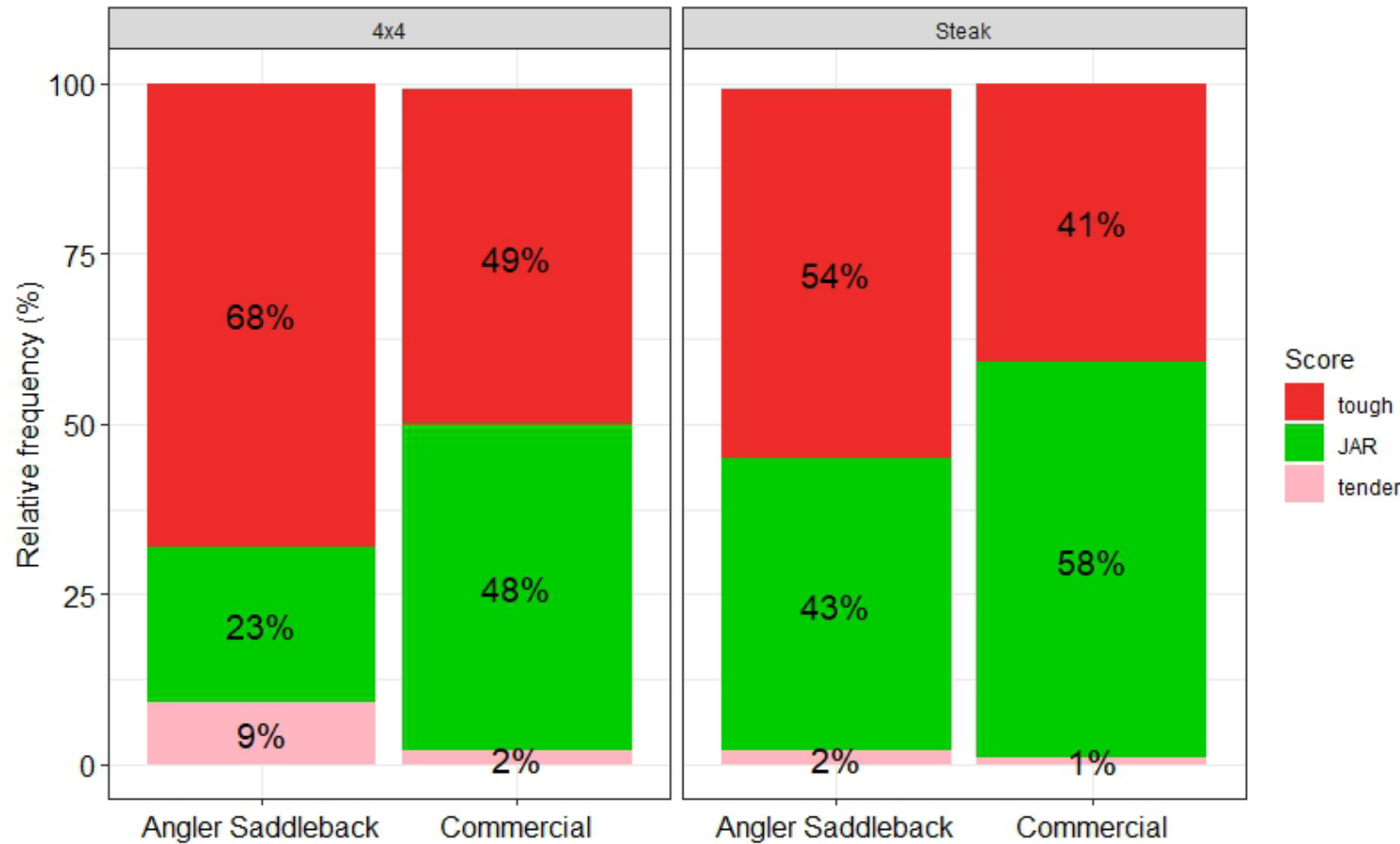


Results: Taste



- No differences were found between the breeds ($p=0.69$) and between the type of product ($p=0.34$)

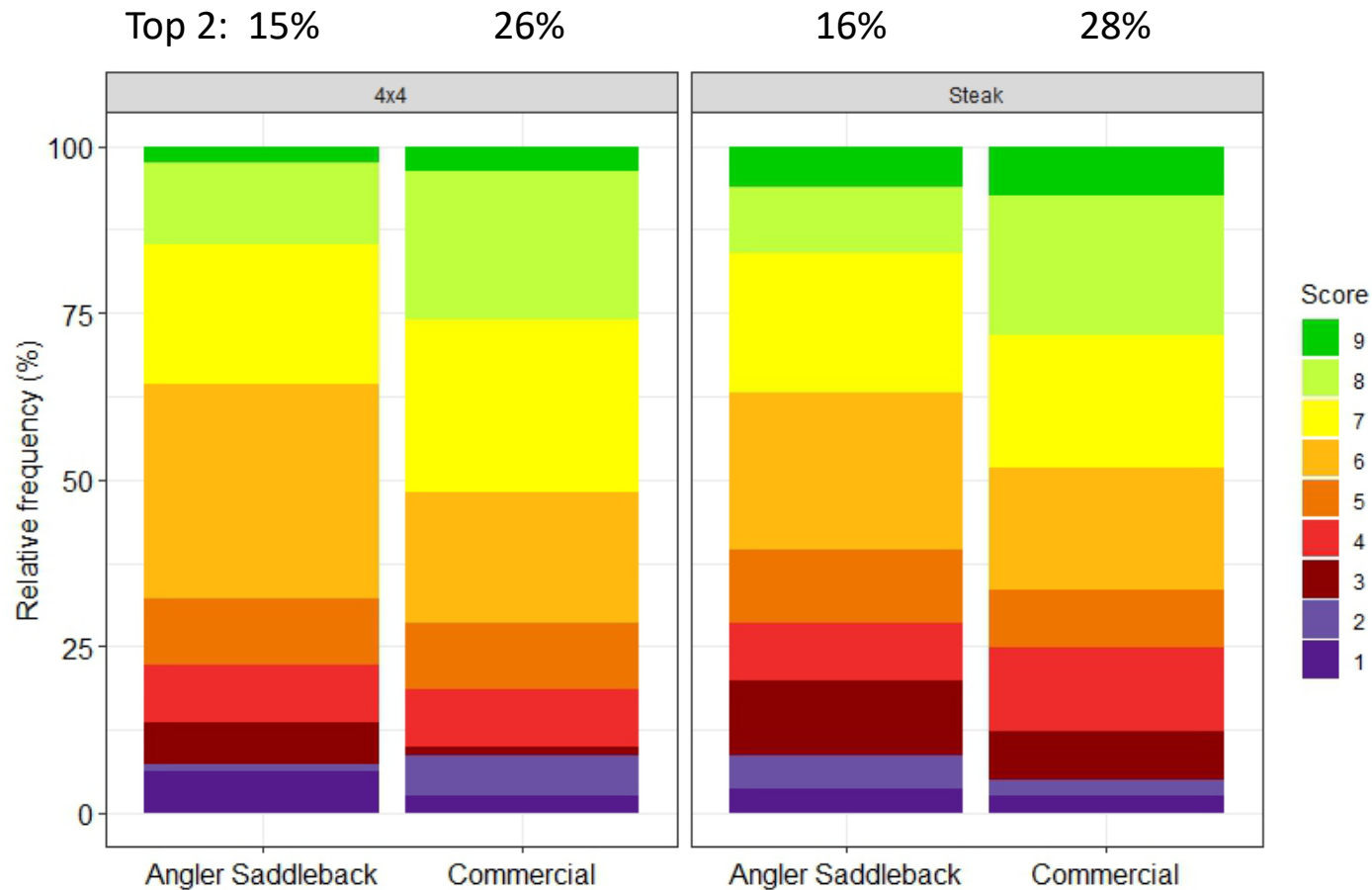
Results: Tenderness



- Angler Saddleback pigs had a lower share of JAR ($p < 0.01$)
- Steaks of the Angler Saddleback pig had a higher share of JAR ($p < 0.01$)

(n = 81)

Results: Overall liking

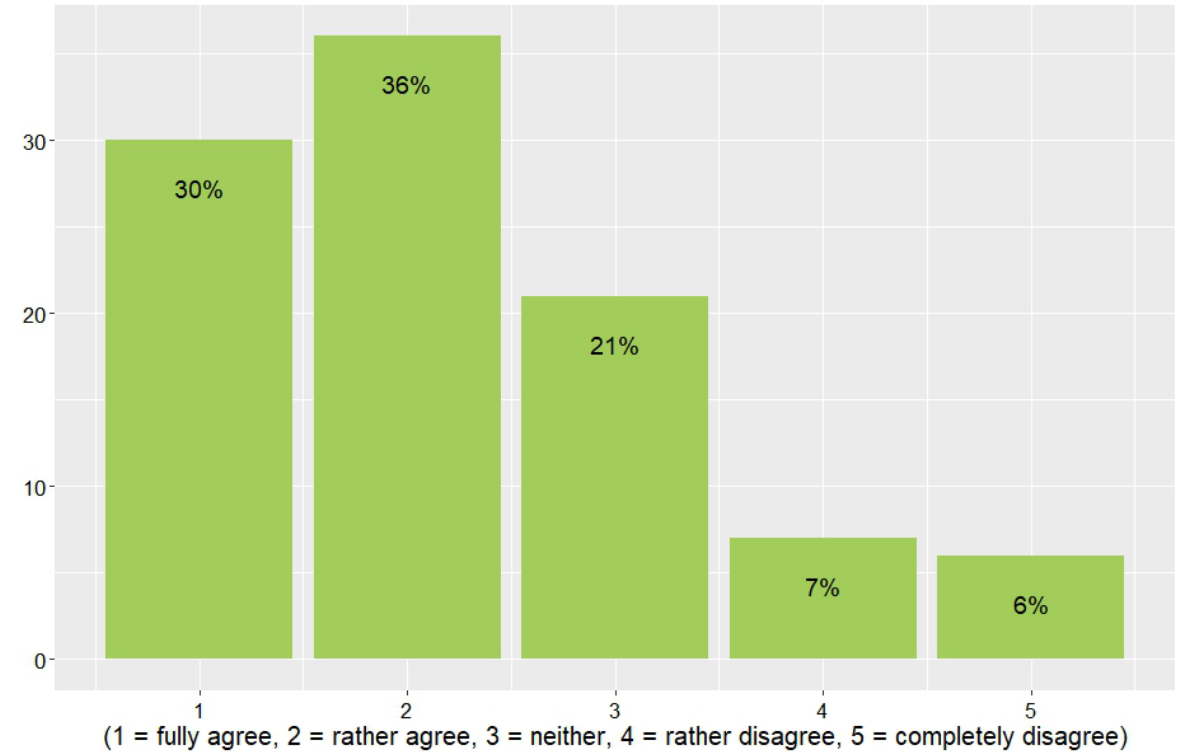
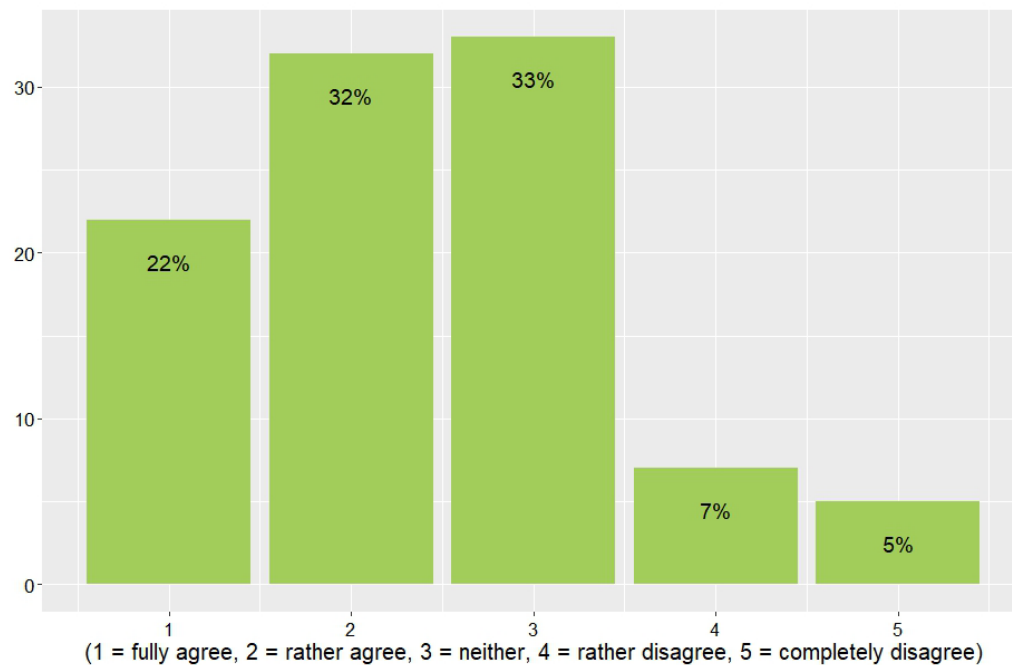


- Meat of the Angler Saddleback pig was liked less ($p=0.01$)
- No difference between the type of product was found ($p=0.34$)

(n = 81)

Results: Follow-up survey

“A low-fat diet is important to me” →



← “I would buy pork from endangered breeds if it meant I could promote their conservation”

(n = 81)

Discussion and conclusions

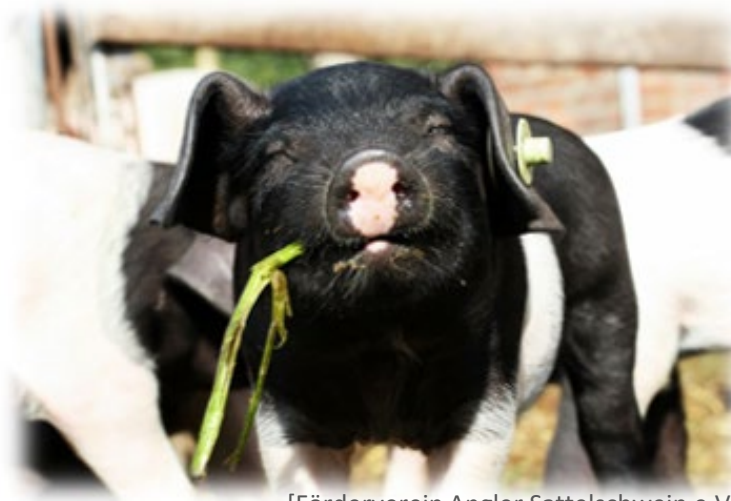
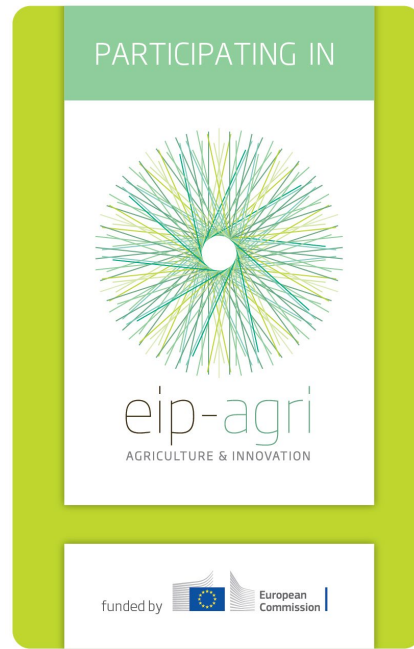


➡ The praised palatability of the Angler Saddleback pig meat could **not be confirmed**.

- The choice of the more commercially used breed was not representative
- Larger fat portions appear to have a negative effect on the rating of appearance but have a positive effect on the rating of palatability (e.g. tenderness)
- The processing of the meat into **sausage** might be more advantageous

➡ For the conservation of endangered farm animal breeds it is important to make them **profitable**. Therefore, we need products with outstanding quality!

Thank you for your attention.



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