1	Exploring the impact of inoculating fungus <i>Mucor flavus</i> on the
2	quality of dry-aged beef
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5	Outline
6	1. Introduction
7	2. Fungal biostarter effect on the quality of dry-aged beef
8	3. Changes in free amino acid content and hardness of beef while dry-aging with
9	Mucor flavus
10	4. Conclusion
11	Abstract
12	Meat aging is a production method where storage under specific conditions is used
13	to enhance flavor, tenderize the meat, and increase its overall value. The most common
14	types are wet aging and dry aging. Dry aging, in particular, is characterized by its
15	variability in outcomes, higher production losses, and susceptibility to foodborne
16	pathogens. As a result, the use of appropriate microorganisms to assist in aging has
17	gained attention recently. Two studies utilized Mucor flavus as a bio-starter, dividing
18	the experiments into groups with and without the use of the culture, and aged beef under
19	controlled environmental conditions for several weeks. They measured changes in the
20	physicochemical properties, sensory quality, production losses, and free amino acid
21	content of the meat, comparing the differences between the two groups. The results
22	showed that the fungal bio-starter increased the pH value in the meat and stabilized the
23	meat's microbial environment, predominantly with Pseudomonas sp. The degree of
24	myosin light chain hydrolysis in the meat increased, and the overall breaking stress and
25	breaking point of the meat decreased, indicating its effectiveness in tenderizing the meat.
26	Additionally, the content of free amino acids inside the mold-aged beef remained
27	unchanged or decreased, but significantly increased on the surface. This process
28	produced some amino acids not initially detected in the beef, such as GABA, proline,
29	and aspartic acid, imparting a salty flavor and enhancing the overall taste, palatability,
30	and acceptability of the meat. These findings are significant for the meat processing
31	industry, highlighting the potential advantages of using microbial starters in the dry
32	aging process and revealing their specific impact on improving meat quality and flavor.
33	These results provide a new perspective and methods for meat aging, aiding in the
34	development of higher-quality meat products.