

## A Case Study on the Brand Development of Odor-reducing Feed Additives

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### Abstract

*In the past, antibiotics and antimicrobial substances have been used for the purpose of promoting the growth of livestock or treating livestock, but various problems such as the presence of livestock products or resistant bacteria have emerged. Recently, regulations on the use of antibiotics have been strengthened worldwide, and probiotics are attracting attention as an alternative. Probiotic microorganisms have already been used for human use, such as intestinal abnormal fermentation, diarrhea, and indigestion. In livestock, beneficial microorganisms are increasing in use for the purpose of improving productivity, such as promoting livestock development and preventing diarrhea. Therefore, it is advisable to understand livestock probiotics in deeper and think about effective uses. The role of probiotics in the livestock sector is made with microorganisms themselves, so it is a substance that promotes livestock growth and improves feed efficiency by settling in the intestines of livestock, suppressing the growth of other harmful microorganisms, helping digestion and absorption of ingested feed, and helping to synthesize other nutrients. There is a need for a probiotic that suppresses intestinal bacteria by supplying probiotics used as a means to minimize the effects of stress in livestock management, thereby suppressing disease outbreaks by maintaining beneficial microorganisms and suppressing pathogenic microorganisms. The purpose of this paper is to develop a brand of feed additive probiotics to improve health conditions due to increased feed intake, improve the efficiency of use of feed nutrients, inhibit the decomposition and production of toxic substances, increase immunity, reduce odor in livestock, and improve the environment. We investigated and analyzed feed additive probiotics already on the market, and developed the naming and logo of suitable feed additive probiotic brands in livestock. We hoped that the newly developed product will be used in the field and help solve problems in the livestock field.*

**Keywords:** Probiotics, Odor reduction, Feed additive brand, Environmental improvement, Probiotic product design

## 1. Introduction

Non-antibiotic methods are being studied as an alternative to treat livestock or solve the problems of antibiotics used as growth promoters. Probiotics, which were mainly used to improve livestock productivity as antibiotic substitutes, have recently been banned from using antibiotics, and demand is increasing for the

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purpose of preventing diseases and improving the livestock environment. As the domestic livestock industry progresses rapidly in size, a large amount of livestock manure occurs in each unit farm, resulting in many problems due to environmental problems such as groundwater and soil pollution [1].

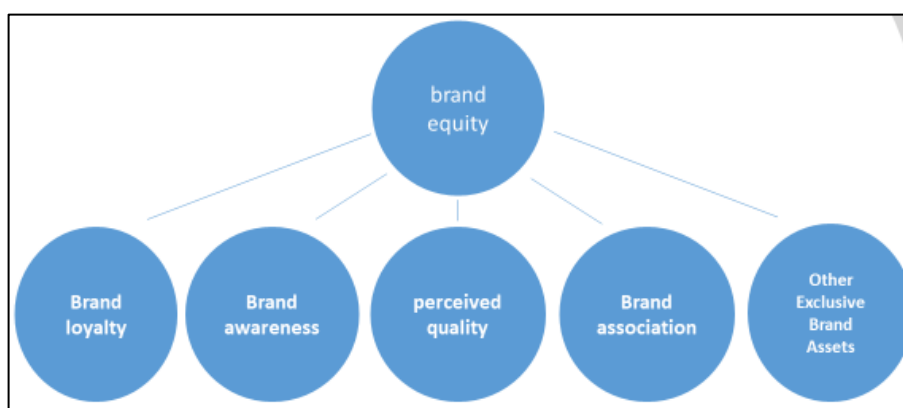
Probiotics, which mean "for life" in Greek etymology, include metabolites produced by microorganisms and strains that help balance the microbial community in the intestine, and live microbial additives that are administered to livestock in the form of dry cells or fermentation products to reduce harmful microorganisms in the intestine and improve the intestinal flora. In order to create an eco-friendly livestock environment, this study aims to help livestock farmers reduce odors by developing the plant "Abelmoschus Manihot Jinhuaakui" as a feed additive and developing it as a feed additive brand. The final selected brand was developed through a feed additive survey and a new brand consumer survey. The livestock environment that reduces odors is an important issue and we hope that the new feed additive brand will help solve the livestock problem.

## 2. Background

### 2.1. Brand definition

A brand refers to a name or symbol, but recently it has given more value than that. Strong brands gain customer loyalty. Brands that contain clear and strong corporate promises will continue to receive positive responses from companies and customers.

John Murphy defines "a brand as a relationship between a customer and a company that generates future revenue by securing customer preferences and loyalty" [2]. As shown in Figure 1, A brand refers to a company or product's unique name, terminology, design, symbol, or other features that are clearly distinct from other competitors in the eyes of a customer [3]. A brand is an "asset" from a company's point of view and directly influences our purchasing decisions [4]. Brand David Arker composed brand equity of brand loyalty, brand awareness, perceived quality, brand association, and other exclusive brand equity, and Figure 1 lists what brand equity consists of in one form.






**Figure 1. Five basics of David Arker's brand assets**

Brand loyalty has a great influence on consumers' 'repeated purchases'. Brand awareness does not really matter how good the quality is, and the fact itself gives credibility. Companies should consider authenticity in order to form a true and mutually reliable relationship in consumer experience, and marketing communication based on products with authenticity can be a differentiating factor that other companies can't easily imitate [5].

You come to think that this perceived quality will be of good quality, which is an important factor in constituting brand equity. It is important to create these associations because the associations felt through the brand create a unique feeling and ultimately evoke favorability. Exclusive brand equity refers to devices to protect brand equity. It means trademark rights, patent rights, etc., and it is very important to protect the assets you create. Brand image is a concept that has perceived or inferred characteristics rather than functional characteristics of a product or corporate brand. Image is the overall impression that humans have of an object, and this impression can be said to be the result of perception of the object [6]. Perceived Brand Image is a general term for everything that comes to mind, such as product perception, attributes, quality, and brand name, and can be defined as a good or bad feeling or belief in a brand that consumers have about a particular company's brand [7].

## 2.2. Investigation of brand of feed additives

Feed additives are substances that are given in addition to feed as a method to improve the body and meat quality. It is in the form of a small or trace amount of powder, liquid, or gel, and is a substance added to feed to ensure or improve feed quality and utilization. These additives are used for the purpose of promoting livestock growth, enhancing immunity, and reducing odors from manure. As shown in Figure 2 is common to feed with the dressing method on feed and important to obtain an effect at a low cost. There are various types of feed additives, mainly classified as follows. Yeast preparations are mainly used in alcohol and bread and are used as food for beneficial bacteria to grow. Yeast has nutritional components such as proteins and minerals, so it has good palatability. Probiotics are mainly made of Lactobacillus cultures, and when fed to calves, they increase the amount of daily proliferation and have the effect of inhibiting harmful bacteria in the intestine. Vitamin A, C, and E are contained, and vitamin A is involved in the fertility rate and estrus of heifers, and vitamin C helps improve meat quality. Vitamin E is involved in meat color and acts as a natural antioxidant. It aims to investigate the brands of probiotics among feed additives and to develop probiotic brand products that help reduce odor.

NO	BRAND	PRODUCT	CHARACTERISTICS
1	EMP		Eco-friendly EM probiotics feed additives livestock products livestock products livestock farms improve immunity to reduce the odor of piglets
2	Lactis		Lactis odor removal fermented microorganism product. Lactis Livestock Probiotics Lactis Livestock Microbiota Smell Removal Efficiency Improvement of Environmental Quality of Pork Feed Efficiency
3	Pumpx Gold		MS Life Sciences Pump X Gold Livestock probiotics supplementary feed pig feed Pumpx Gold. Use 1~2kg of probiotic feed with thistle and marigold extract added






4	LUTENX Red+		<p>MS Life Science LUTENX Red+                  Livestock supplements Colorant Yellow Ruthenx Red+. Probiotics with paprika, marigold extract and astaxanthin, special probiotics aimed at the coloring of egg yolk                  1~2kg per ton of feed is mixed and used</p>
5	envious of mustard		<p>A mustard probiotic                  an anti-inflammatory antibiotic                  50% of the probiotics / mustard ingredients specially fermented with mustard                  It is effective in removing odors by promoting inflammation relief and compost immobilization of livestock, and is used by mixing 2kg per ton of feed</p>
6	Ecotiv-F		<p>Samkwang Ecotiv (Amino Acid) Probiotics                  Suppressing the smell of nutrients and preventing digestion deterioration due to high temperatures. Marketing is conducted using natural sanctions.                  0.1% per ton of feed added benefit</p>
9	Happy Farm		<p>A probiotic for happy farm pig farming. Happy Farm Piglet Beef Porks All Pig Diarrhea Probiotic Additives. Probiotic Feeding Method through Negative Dilution</p>
10	Metapro-E		<p>Eunjin Bio-Metapro-E. Saccharomyces cerevisiae and Bacillus spp. are cultured in an extreme grain medium focused on corn and soybean meal, fermented and aged, and dried at low temperatures below 60°C</p>

Figure 2. Investigation of probiotic products

### 3. Experiments

#### 3.1. Brand naming

Branding was a word that started out as a stigma, but it has now changed to differentiate, increase quality, and make it valuable. Brand naming helps potential customers understand what brand value is. Original brand naming is creating new and unique names, and this type of brand naming gives a visual identity that is noticeable and catchy in competition. Brand naming is essential for creating a strong brand identity and connecting with target customers. Product name brand means that a manufacturer or seller represents the attributes of a product. As shown in Figure 3, it's a brand that uses it. It shows the properties of the product and emphasizes the general genus name of the brand. It refers to a brand [8]. It developed odor brand naming, which means reducing and eliminating odors.



Figure 3. Odor sprout brand naming

### 3.2. Brand packaging design

Brand package design refers to a design that can inform consumers of products, increase purchase motivation, and safely protect and transport products. Package design has the purpose of a function to protect the contents, but the purpose of packaging to increase the value of products is also becoming important. As shown in Figure 4 is because the package is the first impression of a product. Four designs were developed that included brand naming of odor buds, which means reducing and eliminating odors. It was differentiated by applying different colors and graphic images to reflect the opinions of farmers who will actually purchase it.



Figure 4. Packaging design

## 4. Results

### 4.1. Consumer survey

To investigate consumer preference, 200 livestock farms located in Hongseong, Boryeong, Nonsan, and Asan, Chungcheongnam-do were selected from December 1, 2023 to December 31, and a feed additive preference survey was conducted for farm owners. As shown in Figure 5, it's most selected results were 58% for B, 23% for A, 10% for C, and 9% for D. Plan B, which won the first place, was finally confirmed and an application for trademarks was promoted.

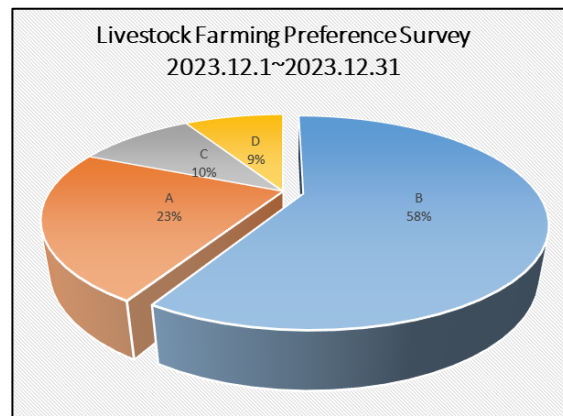


Figure 5. Livestock farming preference survey

#### 4.2. Final design

The final design was confirmed as draft B, which received 58% from livestock farmers, As shown in Figure 6 an application for trademark registration was promoted under the logo-bad smell-O.

- Application date 2024.01.25
- Application No. 40-2024-0016551 (Reception No. 1-1-2024-0101858-69)



Figure 6. Final design logo-bad smell-O

### 5. Conclusions

The purpose of this study is to develop an eco-friendly brand of feed additive probiotics to reduce odors in livestock houses and improve the environment. Various feed additive probiotics already sold in the market were investigated and analyzed, and the naming, logo, and packaging design of feed additive brands suitable for the livestock field were developed. In order to investigate consumer preference, a survey was conducted on the preference of feed additive products for livestock managers. The most selected plan B was finalized and an application for trademarks was promoted.

Under these market conditions, the company's future cannot be guaranteed only by products, and market competition is intensifying. Package design is an important emotional communication in terms of marketing, so new strategies must be pursued for successful marketing and sales. It is important to promote the importance of livestock brands and to develop differentiated feed additives that are easy to understand at a glance, and it is hoped that newly developed products will be used in the field and help solve problems in the livestock field.

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