

Eat Well, Live Well.



Plenary Session 3 – PART A Bioeconomy Innovations, Markets & Consumers

Contribution of balanced amino-acid supplementation in animal feeding to the climate and sustainability

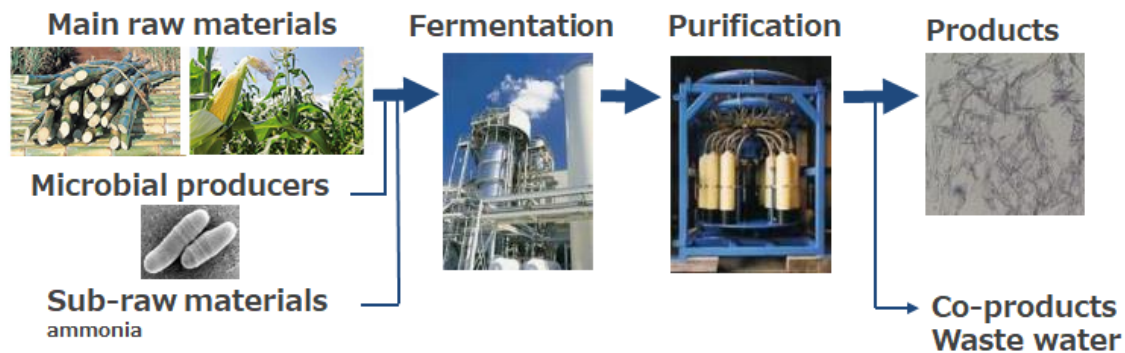
Hiroyuki Kojima, Ph.D.

Chief Innovation Officer, Ajinomoto Co., Inc.

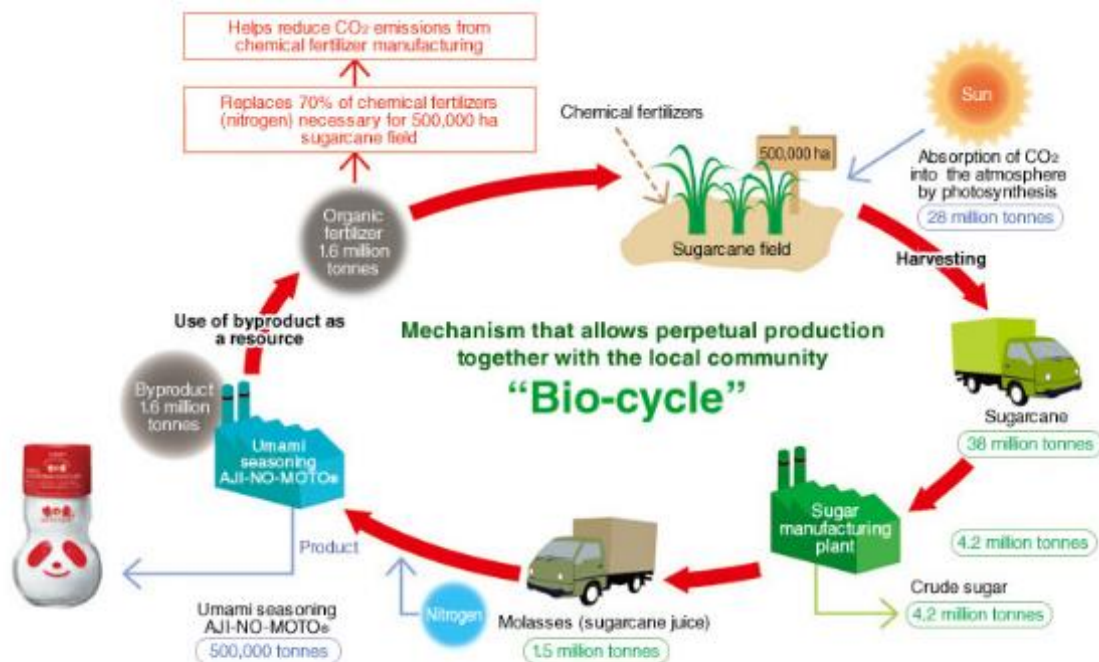
November 19, 2020

Production of Amino Acids and Bioeconomy

Industrial Amino Acid Production Process



1. Nutritional Benefit
2. Taste Benefit
3. Health Benefits



1. Global market: >20 billion USD
2. >6% Increase estimated until 2027



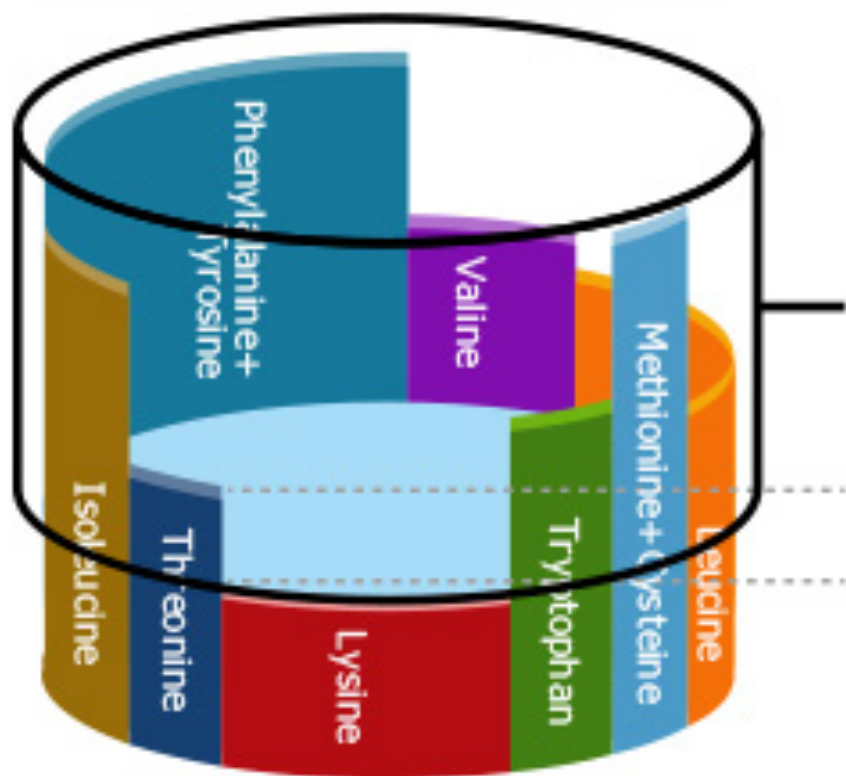
1. Feed amino acid market: >5 billion USD
2. Feed amino acid production: >5 million tons

The chart assumes worldwide annual production of approximately 500,000 tons of AJI-NO-MOTO® seasoning produced by the Ajinomoto Group using only sugar cane.

The values for sugar cane grown and sugar production represent average global use, while the values for resources used for producing AJI-NO-MOTO® and values for by-products are based on actual Ajinomoto Group statistics.

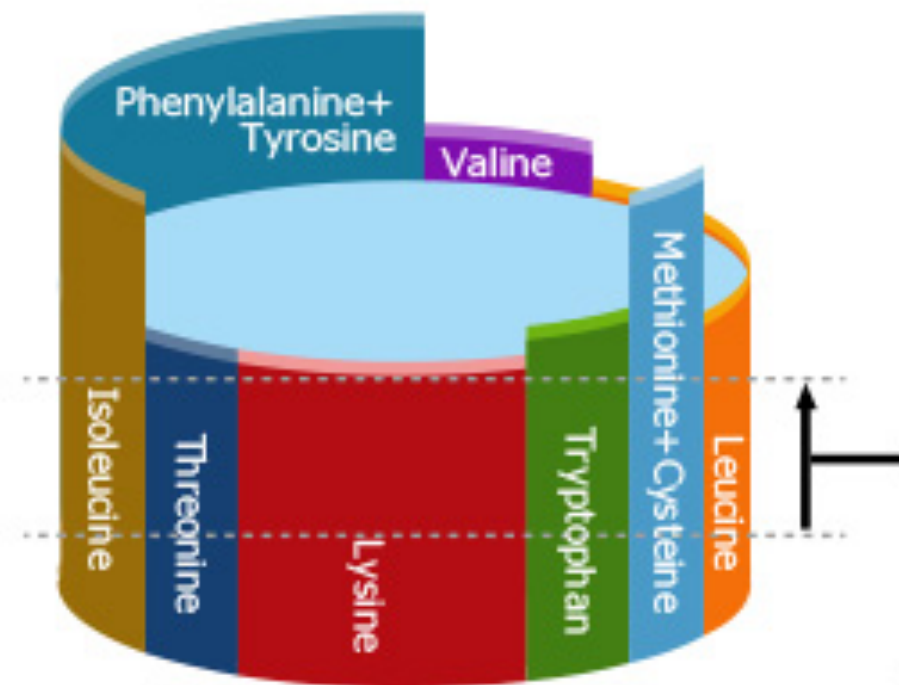
Importance of Balanced Amino Acid in feed

Unbalanced barrel



Amino acids that cannot be used effectively

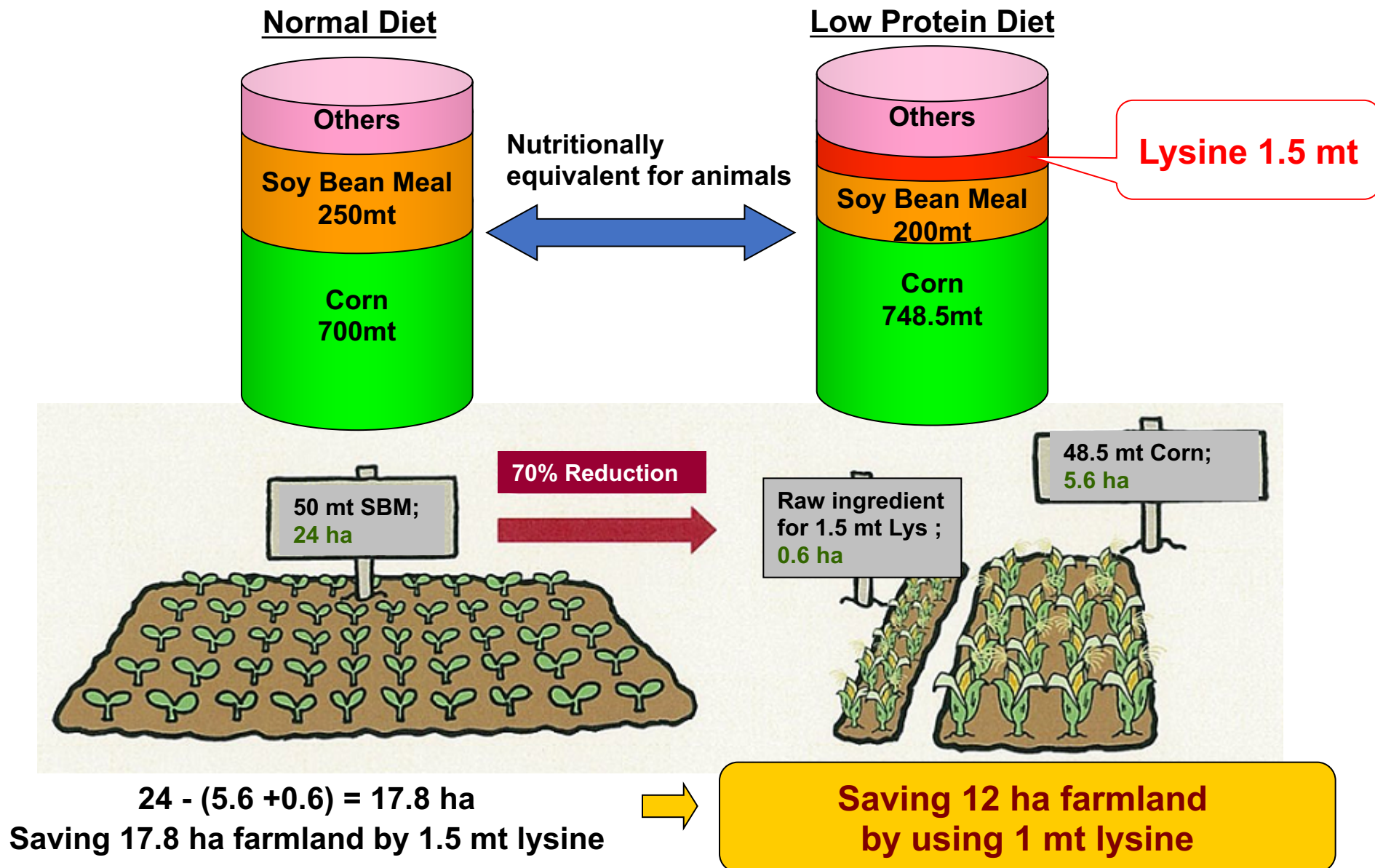
Barrel with added lysine



By adding lysine, which tends to be lacking in feed, all other amino acids can be used effectively.

When animals are given feeds that are deficient in even one of the body cannot effectively use the other amino acids and they will be excreted.

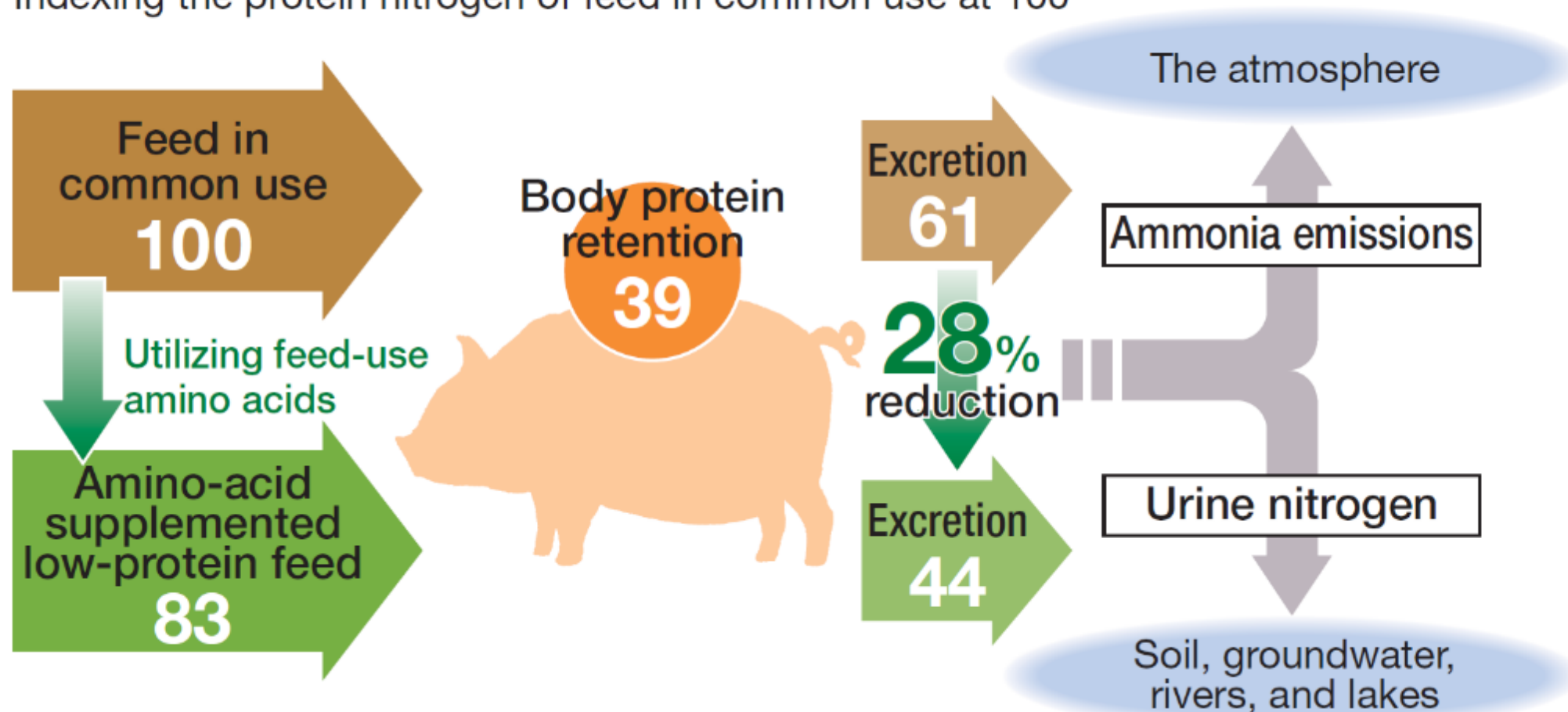
Conservation of natural protein sources and effective use of farmland



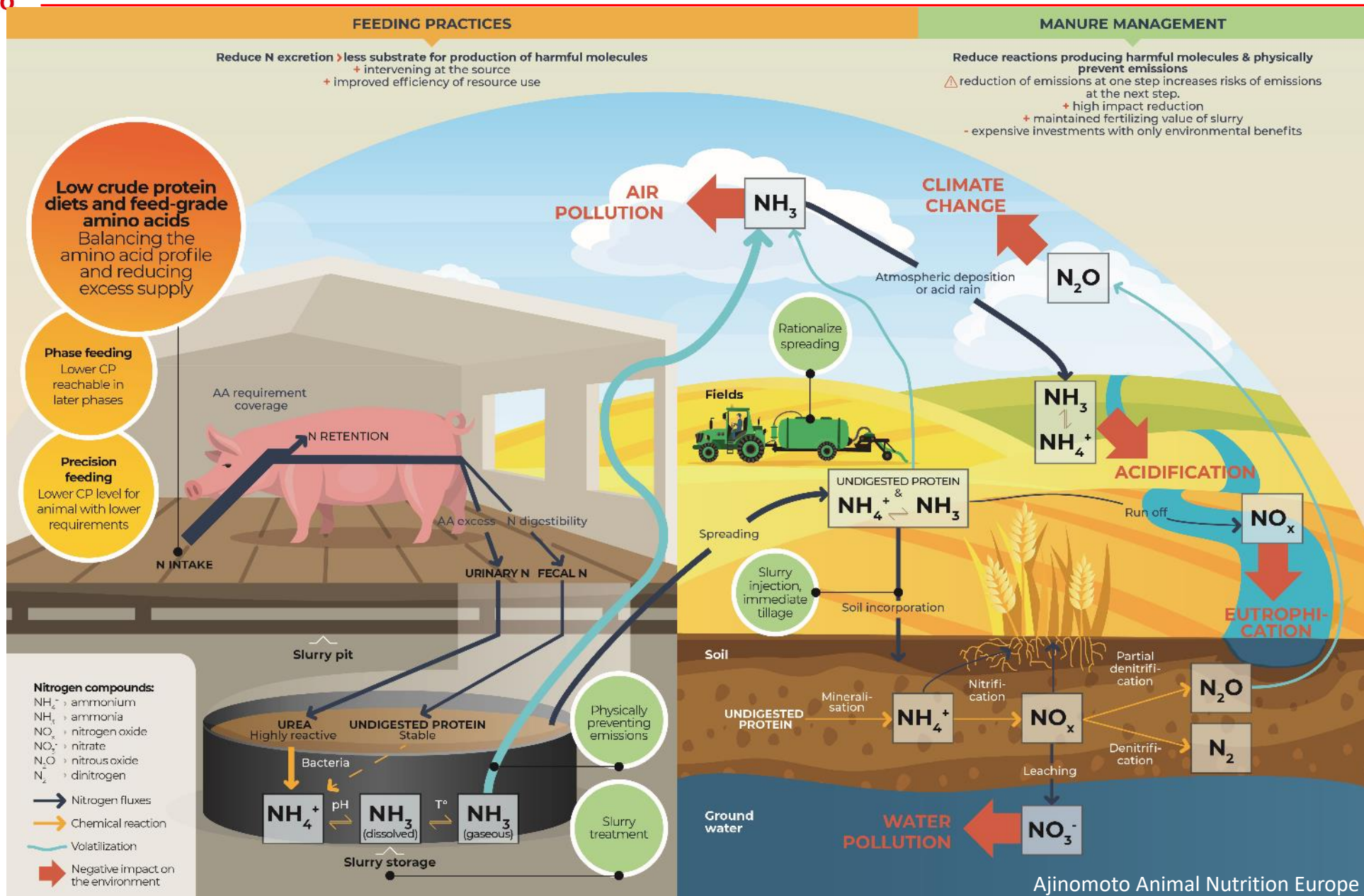
Reduction of protein levels and the associated nitrogen excretion

Nitrogen metabolism in pigs

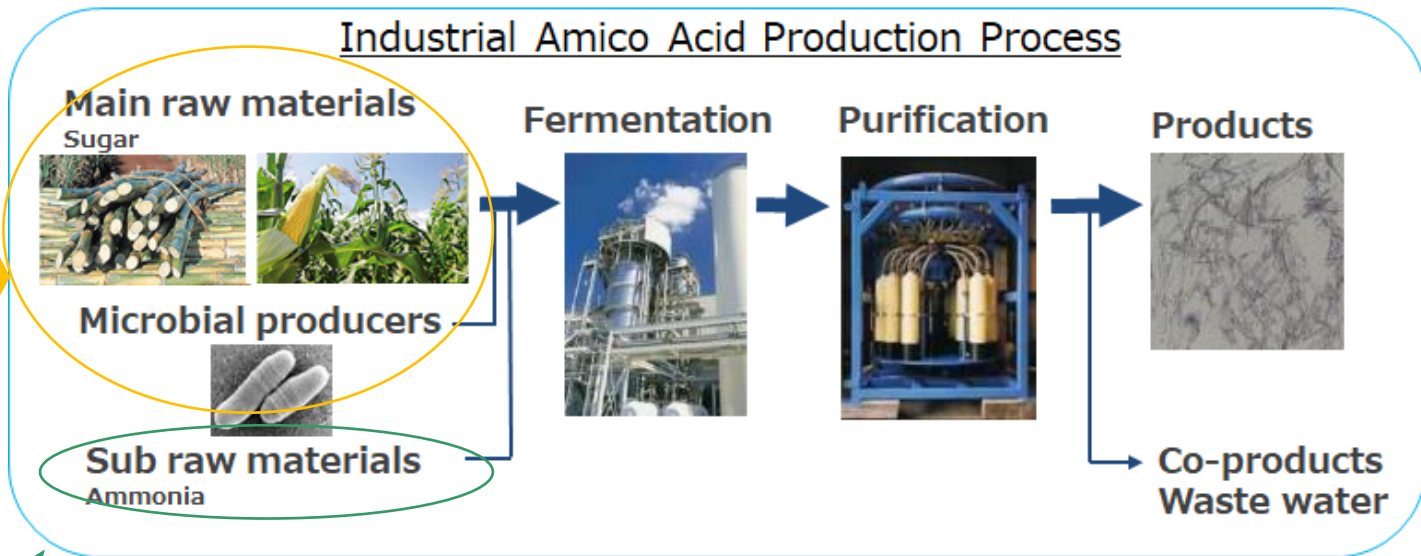
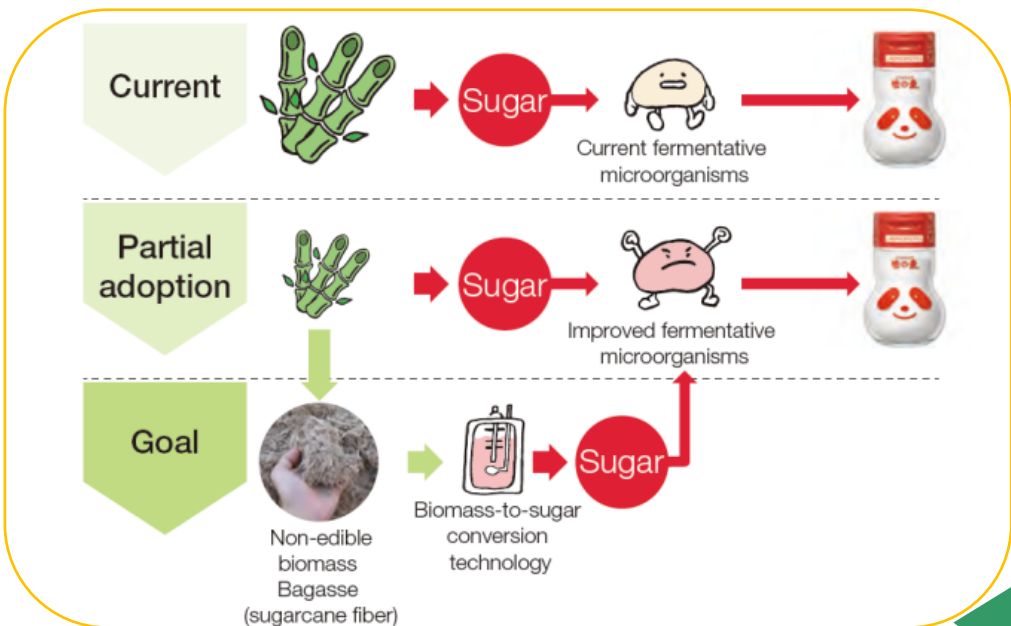
Indexing the protein nitrogen of feed in common use at 100



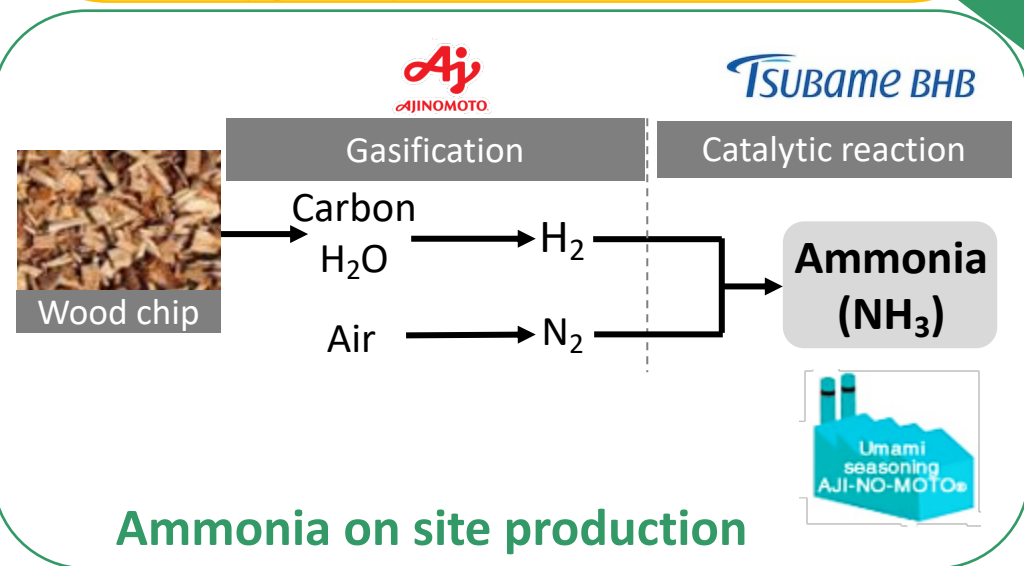
Solving Environmental Problems



For More Sustainable Amino Acid Production and Future



Ajinomoto Group's long-term environmental targets



Eat Well, Live Well.



Thank you.