

MONGOLIAN ANIMAL PROTEIN'S RESOURCE AND USAGE PROBLEM

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ABSTRACT

In a year, it's calculated that to prepare 11885 ton animal internal organ's and derivative raw materials protein for food stuff and defined ways of usage

KEY WORDS: The guts, derivative raw materials, protein, and resource

INTRODUCTION

It's caused feature of nature, weather, and pasture land, our country's animal's quantity is liberating from 32 million to 40 million in last 5 years 80% of all animals are sheep and goats and other 20% are horse, cattle and camel in Mongolia. Female animal's used for breeding's average quantity is 42% of all animal's in a year, so over 10 million newborn young animal's are delivered off-springs. It means our animals quantity's increment can be about 1,5 million except food demand, consumption and other usage [2].

Main object is to increase benefits of animals such as meat and milk, to produce raw materials without emission, and to increase resource of

food stuff. Because, in these days animal protein's demand is increasing in the world.

In Mongolian, it is dominated pastoral cattle breeding. So we can use pure meat and milk, produce without emission, provide domestic usage as well as we have a chance to export animal protein, vegetable oil products, forage, drug, and biological products to foreign market.

But it is slaughtered traditional way for settlement citizen's usage of meat, so animal's internal organ, blood, head, leg, and enzyme raw materials are wasting however, it is increasing to use guts and derivative products in last years product's quantity is low, there are few types of products and technology is underdeveloped.

RESEARCHED CASE

Protein is main resource of life. Its disadvantages are to unbalance metabolism's normal activity, to stop growth, to loosen stamina, to ill easy, to loosen workmanship and to reduce age. Protein's essential amine's quantity and ratio express food protein's biological valuable quality[3].

Now a days low usage of animal protein derivative raw material's research's result:

The visceral organs (guts) and sub products. According to scientists' research, even the visceral organs are not oily its protein content is similar to carcass meat as well as. It is resource of some kinds of minerals and vitamins, some kinds of guts, total protein, has a lot of collagen, so ready made products protein quantity is lower than carcass meat product's [1;2].

In these days according to diet if 15% of total protein is collagen it is good for health. This quantity is explained that related to product's protein biological valuable quality [2].

In foreign countries the guts with low price are used to enrich protein, mineral, and vitamin and

RESEARCH METHOD

Mongolian statistic data and Scientist's research materials are used to calculate resource of visceral organs and sub product's protein.

In this research, over 150 consumers are participated we are served "Khuchit Shonkhor", "Narantul", "Dalai eej" and other wholesales. It is consisted 6 questions.

In research, statistic analysis, sample survey, observation and query methods are used and it is used SPSS programm to make result.

RESULT OF RESEARCH

1. The visceral organs and sub products

1.1 Meat production and resource

In our country, 9 million to 11 million animals or over 530000 ton live weight animals are killed 200000-250000 ton carcass meat are used for food stuff, and 15000-20000 ton meat are exported to abroad in a year. Even there is not statistic information about the guts and derivative

products, if it will calculated by outlet of meat production 68,9 thousand ton guts and derivative products are been in a year. In total meat production, the meat's level and mass which is produced by industrial way are increase from 2009 and it became 12% in 2011(3yp.1)[2].

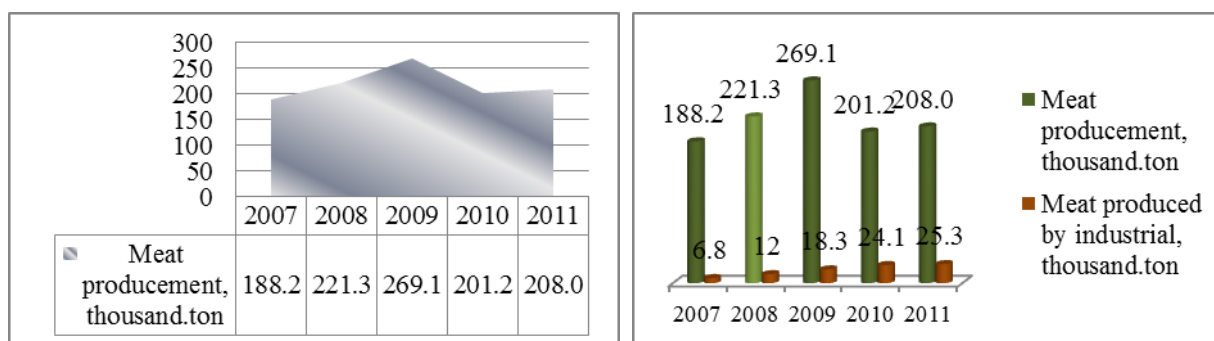


Figure 1. Meat production

1.2 The sub product's valuable quality

The guts food's valuable quality, to see small cattle meat's chemical general component's rates,

the guts are main resource to protein (table.1) [2;3].

Table 1
Sheep and goat guts's chemical general component,%

Rates	I category guts				II category guts			
	heart	liver	kidney	lung	stomach	fardin g-bag	comb	milt
Moisture	76.77	72.14	79.97	79.20	81.62	82.77	84.2	77.89
Protein	18.55	18.74	15.04	16.63	10.45	12.10	12.06	17.4
Fat	2.67	4.55	3.37	2.38	6.87	4.29	2.97	2.75
Mineral	1.07	1.46	1.34	1.26	0.86	0.51	0.44	1.40

United Nations' food and Agricultural Organization and World Health Organization

suggested that if tryptophan and oxyprolyn ratio is more than 5 that meat will be

considered valuable quality meat. Mongolian quality's rate's average's 8,2 (Figure.2) [3]. some sheep's internal organ's protein's valuable

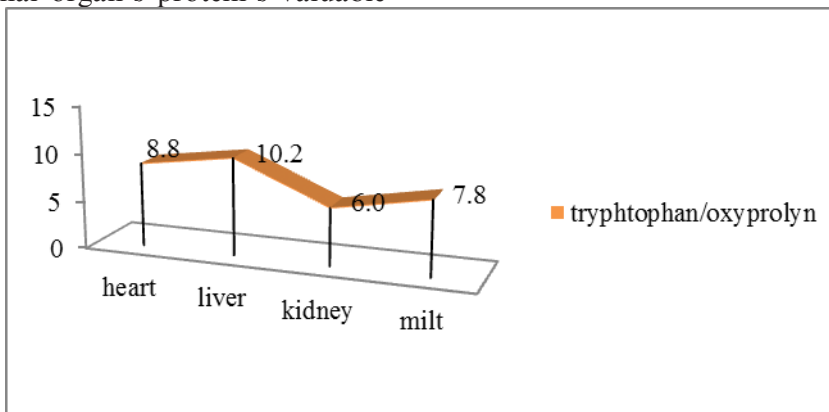


Figure 2. Mongolian some sheep's internal organ's protein's valuable quality's rate

Capital Health association's centre of dietetics is determined that settlement citizens use protein 14,15 gramm lower than standard amount, 11,5 gramm lower than state average, and 25,8 gramm lower than countryside. Also, it is explained that it is related to provision of food stuff, usage and family's real gain. In our country, scientists are

suggested that carcass meat's price is increasing so if meat requirement of a day's some percent will be replaced by guts, and the other percent will be provided by some other resources it can prevent protein weakness [2].

1.3 Research about usage

It is classified by age and family's gain who participated the research (Figure.3).

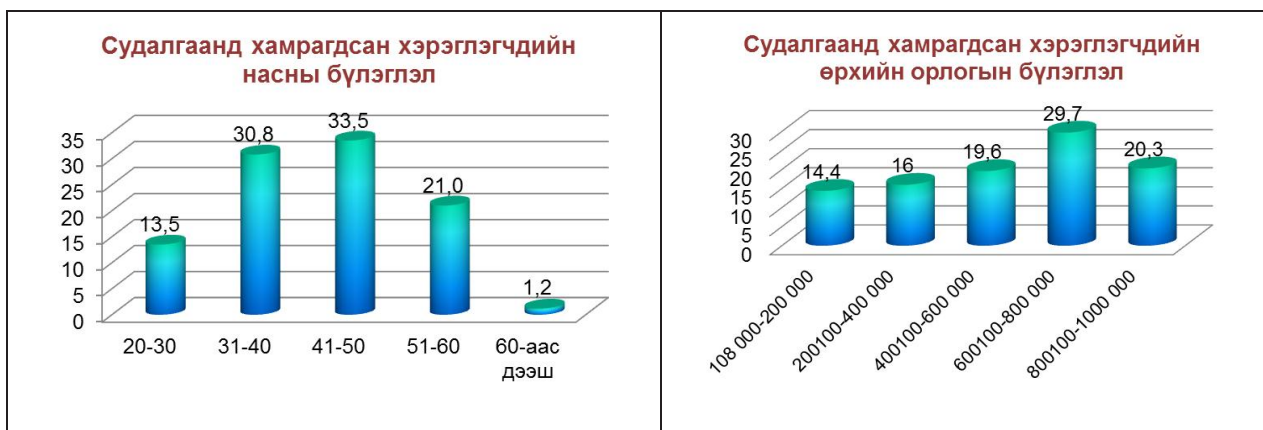


Figure 3. Age and family's gain who participated the research

The research is showed that people who has an average gain and higher than average gain are using guts in their food stuff. It is explained that these users have tradition to use guts and they have knowledge about its component, functional quality and diet.

80% of all people who participated the research and who has over ₮ 400000 gain buy guts once a week. So, it means it has possible to increase this product's demand.

a. Account of internal organ's usage of food stuff resource of a year animal's live weight:

$$m_{g.d.p} = m_{L.W} \cdot (0.15 - 0.2) = 530\ 000\ t \cdot 0.13 = 68900\ t$$

If the guts and derivative raw material's which is killed by industrial way quantity usage of energy:

$$m_{g.d.p(indway)} = m_{g.d.p} \cdot (0,12) = 68900 \text{ t} \cdot 0,12 = 8268 \text{ t}$$

b. The guts and derivative raw material's protein resource:

If the guts' and derivative raw material's protein content is 17,25%, the guts and derivative raw materials protein resource which is prepared by Agriculture of a year is:

$$m_{p,r} = m_{g.d.p} \cdot 0,1725 = 68900 \text{ t} \cdot 0,1725 = 11885,25 \approx 11885 \text{ t}$$

If we will calculate the guts and derivative raw material's protein which is killed by industrial way:

$$m_{p(indway)} = m_{g.d.p(indway)} \cdot 0,1725 = 8268 \text{ t} \cdot 0,1725 = 1426,23 \approx 1426 \text{ t}$$

$$m_{\text{protein its consumption is not clarity}} = m_{p,r} - m_{p(indway)} = 11885 \text{ t} - 1426 \text{ t} = 10459 \text{ t}$$

It shows diversity of protein.

It is not clarity which way and how to used this **10459 t** protein.

$$X_{\text{level to provide usage protein}} = \frac{m_{\text{not clarity consumption protein}} \cdot 100}{0,104 \text{ kg} \cdot 365 \cdot 1000 \cdot N} = \frac{10459 \text{ t} \cdot 100}{0,104 \text{ kg} \cdot 365 \cdot 1000 \cdot 2800000} = 9,84 \approx 10\%$$

Here:

$X_{\text{level to provide usage protein}}$ - the level to provide usage of protein of all people in a year

0,104kg – norm of one person's protein usage

365 – days of a year

N - number of people

1000 - to turn over kg to coefficient

It is showed that it is not clarity how to used 10% of all people protein usage in a year.

A person uses 37,0 kg protein in a year. If 40% or 4183,6 t of 10459 t resource are wasted 4183,6 t: 0,037 t = 113070 will be requirement for person in a year.

derivative products which is produced by industrial way.

Target market - 2

To calculate future market that consumers to care their health, diet, nutritive food, and usage and to use healthy and high quality food:

c. Market Capacity:

It can be defined that the following two target markets.

Target market- 1

For consumers who is 31-50, it needs to increase slaughter industrial power, and the guts and

$$Q = n \cdot q \cdot p$$

Here:

Q- market capacity, million tugrugs

n- number of consumer

q- frequency of buy

p- price of product

$$Q = 677600 \cdot 2 \cdot 5000 = 6776000000 \approx 6776 \text{ million tugrugs}$$

In this calculation, consumer's number is 677600, (It's based on document of world food program) frequency of buy is 2 times in a year and price is 5000 tugrugs its price is now a days small cattle's offal. So it is estimated that in total, it has 6776 million tugrugs market capacity.

2. Direction to use raw material's resource to protein

If needs to incarnate technological and management activities such as to nucleate human's health and to use raw material's resource to protein of meat and milk industries (Figure 4) [2].

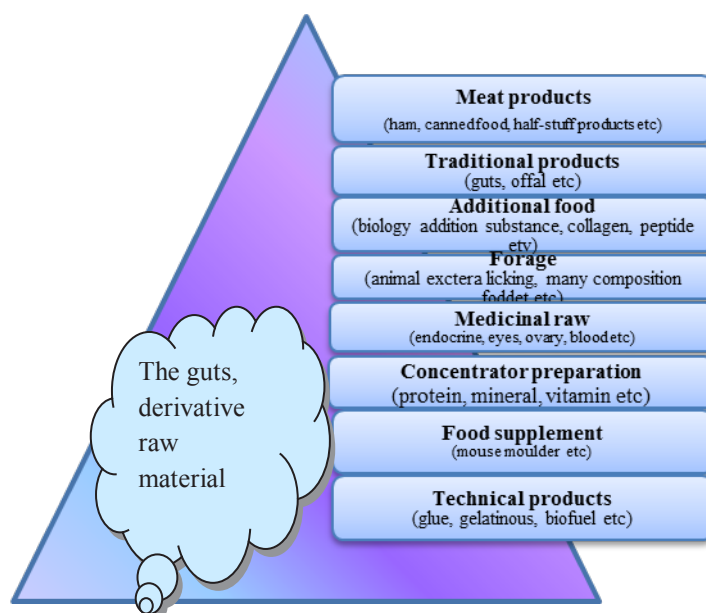


Figure 4. Direction to use guts' and derivative raw material's protein resource

- To clean the guts well and to package by freeze and frozen method;
- Slimy substance raw materials such as paunch and third stomach of ruminants, sinew, and ranly things by biotechnological method;
- If needs to produce animal full-blooded organ and blood to foodstuff by advanced method now and the future.

SUMMARY

1. In Mongolia, internal organ's and derivative raw material's protein's which is prepared for usage of foodstuff resource is 11885 ton.
2. Now animal protein's resource usage is lower and processing technology is not developed.
3. In this research people who has an average and higher than average gain (400.1-800.0 tugrugs) are using guts for food.
4. It needs to provide demand of market to fame and to produce during meet processing new products based on protein.

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