

Note: Key data/information in this sample page is hidden, while in the report it is not.

2 Regulations and policies on insect protein in China

Regulations on insect protein as feed material

In China, insect protein is permitted to be applied as feed material by the government. According to the *Feed Material Catalog (2014)*, which is issued by the Ministry of Agriculture of China, insect materials are under the sub catalog "9. terrestrial animals and their by-products", with information as below:

- 9.2 Insect processing products
 - 9.2.1 Silkworm powder
 - 9.2.2 De-fat silkworm powder
 - 9.2.7 ___ worm powder *
 - 9.2.8 De-fat ___ worm powder *
- 9.5 Earthworm & its processed products

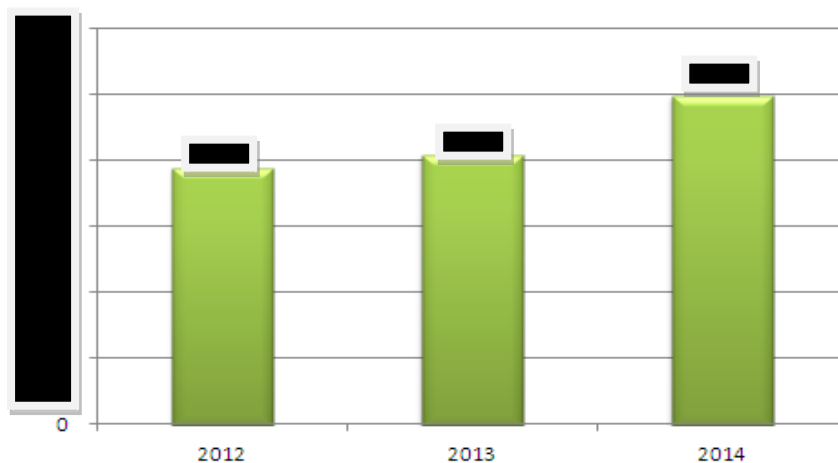
3 Market situation of mealworm in China

3.1 Supply

Figure 3.1-1 Value chain of mealworm in China

Generally, the supply of mealworm in China keeps increasing, with a growth rate of more than XXXX during the last few years. As the entering and withdrawing barrier of the mealworm breeding industry is relatively low, the supply of mealworm is mainly determined by the demand. In the last decade, the supply of mealworm in China was mainly triggered by

Figure 3.1-2 Supply of dried mealworm in China, 2012-2014, tonne



Source: CCM

Table 3.1-1 Major manufacturers of dried mealworm in China, 2014, tonne

No.	Producer	Location	Output	Live mealworm consumed
1	Shandong Langshi Insect Developing Co., Ltd.	Shandong Province	XXXX	XXXX
2	XXXX	Hebei Province	XXXX	XXXX
3	XXXX	Shanxi Province	XXXX	XXXX
4	XXXX	Guangdong Province	XXXX	XXXX
5	XXXX	Guangdong Province	XXXX	XXXX
6	XXXX	Guangdong Province	XXXX	XXXX
7	XXXX	Gansu Province	XXXX	XXXX
8	XXXX	Hubei Province	XXXX	XXXX
9	XXXX	Jiangxi Province	XXXX	XXXX
10	XXXX	Shandong Province	XXXX	XXXX
Others			XXXX	XXXX
Total			XXXX	XXXX

Source: CCM

3.2 Market price and cost analysis

Cost analysis of mealworm products

In 2014, in the value chain of insect protein for feed, the margin of raising live mealworm was the highest, XXXX; while that of supplying dried mealworm was

Table 3.2-2 Cost of 1 tonne live mealworm in 1 year in Shandong Province, Feb. 2015

Item	Specification	Cost, USD
Fixed cost		
1.1 Box	XXXX	XXXX
1.2 Spawning sieve	XXXX	XXXX
1.3 Shell	XXXX	XXXX
Operation cost		
1.1 Mealworm for reproduction	XXXX	XXXX
1.2 Feed		
Wheat bran	XXXX	XXXX
Vegetables	XXXX	XXXX
1.3 Labor	/	XXXX
1.4 Others	/	XXXX
Total	/	XXXX

Source: CCM

Table 3.2-5 Cost of 1 tonne dried mealworm in Shandong Province, Feb. 2015

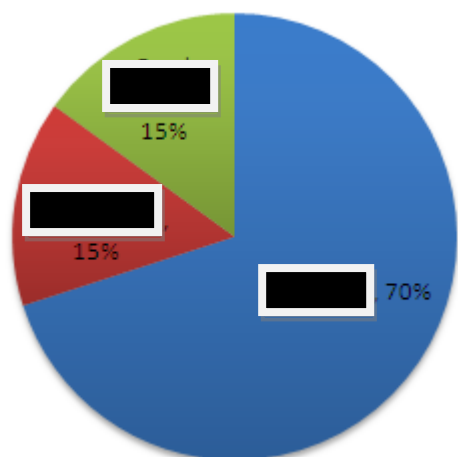
Item	Specification	Cost, USD
Live mealworm purchasing cost	XXXX	XXXX
Drying cost	/	XXXX
Labor	/	XXXX
Others (administrative & sales cost)	/	XXXX
Total	/	XXXX

Source: CCM

3.3 Consumption

Most of the mealworm products are exported in the form of dried mealworm in China. In 2014, XXXX of the dried mealworm products were supplied to the overseas market, which are mainly used as feed for

Figure 3.3-2 Downstream share of mealworm products in the overseas market, 2014



Source: CCM

In the domestic market, mealworms are usually consumed in the forms of live or dried ones, as well as complex powder. The consumers include feed companies.....

Mealworms are mainly consumed as feed in the

4 Market situation of other insect proteins in China

Maggot

Maggot is a kind of insect with high crude protein. In China, people have been breeding maggot more than 10 years, but a formal industry system hasn't been formed. The downstream industries of maggot breeding are feed factories and farms. One benefit of breeding maggot is that it is very easy to find feed for maggot. However, there are some

shortcomings limiting to the development of maggot's scale breeding. Below are the deficiencies of maggot breeding:

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