



ejiao

An investigative report
prepared for Humane Society International

The production, raw material resources
and consumption of **donkey-hide gelatin**



**HUMANE SOCIETY
INTERNATIONAL**

4 million

donkeys killed every year

domestic

*population has dived from
11 million to just five million*

China

*is scouring the world to
drive up the slaughter-rate*



An Investigation Report on the Production, Raw Material Resources
and Consumption of Donkey-Hide Gelatin (Ejiao)

ejiao

donkey-hide gelatin (DHG)

Donkey-hide gelatin (DHG, or ejiao) was originally recorded in **Shen Nong Herbal Classic of Materia Medica and the Compendium of Materia Medica**. It was used as an ingredient of Traditional Chinese Medicine (TCM) in ancient times. With the economic development of China and rising consumption, people have become more concerned about their health. Seeing profit opportunities in TCM, DHG producers began to exaggerate the properties of DHG. As a result, DHG price has gone up from RMB 100 or 200 per kilogram to RMB 3000 to 4000 per kilogram. The price rise resulted in more participation of DHG producers in the production as well as a short supply of donkey hide, the main raw material of DHG. The unit price for each donkey hide has therefore increased from a dozen yuan (RMB) (less than \$2 USD) to RMB 3,000 (more than \$460 USD) per sheet. **The domestic population of donkeys has dropped from more than 11 million to around 5 million¹.**

The shortage of domestic raw material has driven the DHG producers to the overseas market to import donkey hide in large volumes for DHG production. However, donkeys are important for transport and farming in many developing countries. In the western African country Bukina Faso, 45,000 out of a total population of 1.4 million donkeys were slaughtered in just six months². This massive slaughter is reported to have seriously affected agricultural production and the livelihoods of the local people.

Reports in many countries criticised China as “a country looking for donkeys all around the world”³. As demand for the product increases in China, more donkey hides are being imported. The resulting loss of livelihoods for impoverished communities, animal welfare concerns and the dubious efficacy and quality of the final product could all potentially damage China’s reputation. This is why we conducted this investigation of the current state of the DHG industry, its production, and the way donkeys are slaughtered.

gelatin’s health benefits are
being misrepresented by

profiteers

single donkey hide has rocketed
from a dozen yuan (renminbi) to

RMB 3000

Initial literature review

Initially we conducted a literature review that included 30 books and ancient classics, 16 academic papers and media reports on a wide range of subjects. These included donkey hide, production process, DHG substitutes and producers. The review revealed that the current demand for donkey hide is around four million donkey sheets. The number of donkeys in China has dropped from 11 million in 1990 to about five million at the present time⁴. As a result, the domestic suppliers can only provide 1.2 million sheets due to the sharp drop in the donkey population. DHG producers began to import donkey hides to beat the shortage at home.

As a TCM ingredient, DHG was believed to have similar properties to gelatin from cow hide and a new type made from pigskin. Donkey hide has often been fraudulently substituted with other cheaper and more accessible materials. Yet no replaceable herbal remedy of DHG was mentioned in ancient medical books. Herbal substitutes for animal-based medicines could become a new direction of scientific research.

DHG is mainly produced in Shandong, Henan and Hebei. Dong'e in Shandong is the place where DHG originated. So we chose to make the field investigation in Dong'e County, Liaocheng City of Shandong Province. There are more than 20 companies registered in DHG production in the city, including Dong'e DHG, a large company with a registration fund of over RMB 600 million; nine large and intermediate scale companies with the registration fund of more than RMB 10 million and; around 100 small companies or unregistered workshops.

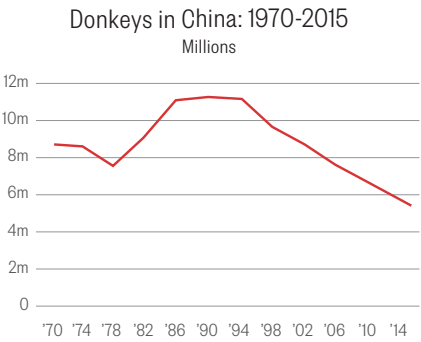


Table 1 DHG producers in Liaocheng City, Shandong Province⁵

Company		Registered Capital (RMB 10,000)
Shandong Dong'e Ejiao Holding Co.,Ltd.	No. 78, Ejiao Street, Dong'e County, Shandong	65,402
Shandong Dong'e Yishengtang Ejiao Healthcare Food Co., Ltd.	No. 76, E-jiao Street, Dong'e County, Shandong	6,000
Shandong Dong'e Gujiao Ejiao Series Products Co., Ltd.	Chenji Village Dong'e Country	6,000
Shandong Dong'e Dongshen Ejiao Product Science & Techonology Co. Ltd.	East End, Science & Technology Industrial Park, Dong'e Country	5,000
Dong'e Shengliyuan Ejiao Holding Co., Ltd.	Daqiao Town Industrial Park, Dong'e County	5,000
Shandong Dong'e Dongfang Ejiao Holding Co., Ltd.	No. 020, Ejiao Street, Dong'e County, Shandong	4,500
Shandong Dong'e Shimeisheng Ejiao Healthcare Holding Co., Ltd.	Jiaoguang Road, Science & Technology Industrial Park, Dong'e Country, Shandong	1,500
Dong'e Fulutang Ejiao Series Products Co., Ltd.	East of Tongyu Road, Dong'e County	1,000
Shandong Dong'e Jiaocheng Ejiao Biotech Co., Ltd.	Tongcheng Industrial Park, Dong'e County	1,000
Shandong Dong'e Xiuyuan Ejiao Biology Group Co., Ltd.	No. 1, Jiaoguang Road, Science & Technology Industrial Park, Dong'e Country, Shandong	1,000
Shandong Dong'e Ejian Ejiao Bio-engineer Co., Ltd.	Jianglou Town Industrial Park, Dong'e County	800
Shandong Yanggu Guejing Ejiao Factory	No. 77, South Gushan Road, Yanggu County, Shandong	300
Shandong Dong'e Lurun Ejiao Product Co., Ltd.	West of Dongkang Road, Global Mall, Dong'e County	300
Shandong Dong'e Efu Ejiao Series Products Co., Ltd.	Huanqiu Xilu, Dong'e County	200

A rapid expansion of DHG production-price hikes, donkey population drop and rising cost of raw materials

In 2015, the retail sale of DHG in drugstores alone has reached RMB 6.582 billion, an increase of 32.8% than that in the previous year⁶. DHG has stood at the top of the sales of the drugstores for many successive years. Most of the sales were achieved by products produced by some 200 DHG companies in Shandong that employ more than 100,000 workers. Dong'e DHG, the largest DHG producer in Shandong, has built a farm for raising 10,000 donkeys. The number of donkey hides in its annual order exceeds 1 million.

The production and sale scales of DHG are extremely huge. Besides the two biggest producers, Dong'e and Fujiao, the other smaller ones usually have an annual output of 100-200 tons. The national sales are around 6000 to 7000 tons, worth RMB 23.6 billion on the market. It is estimated that the DHG output will have doubled by 2020, reaching RMB 52.4 billion.

The National Developing Plan of Herbivore Animal Husbandry (2016-2020) issued by the Ministry of Agriculture included donkey as a target industry for the first time. The inclusion of donkey farming in the Plan has been interpreted by some insiders as an opportunity for the development of a donkey industry in China. The DHG industry is expected to maintain a growth rate of 15% annually from 2015 to 2020.

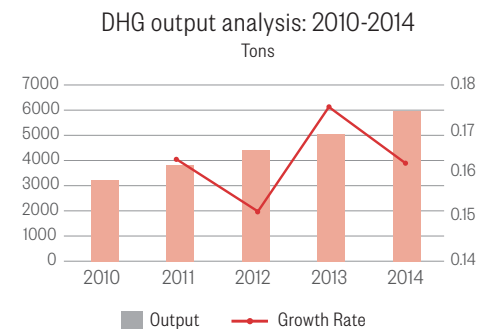


Diagram 1

Source: Shandong Ejiao Industry Association

What lies behind the huge market value of DHG are the skyrocketing prices of both the raw material and the finished product. The shortage of live donkeys in the world has led to a corresponding rise of the prices of donkey hide and DHG. According to the statistics of Shandong DHG Industrial Association, the unit price of donkey hides which was around RMB 20 in 2000 went up to less than RMB 500 in 2010 and soared to RMB 1,500 in 2014, with the average purchase price reaching over RMB 2,600 in 2015.

Donkey hide price change: 2000-2016

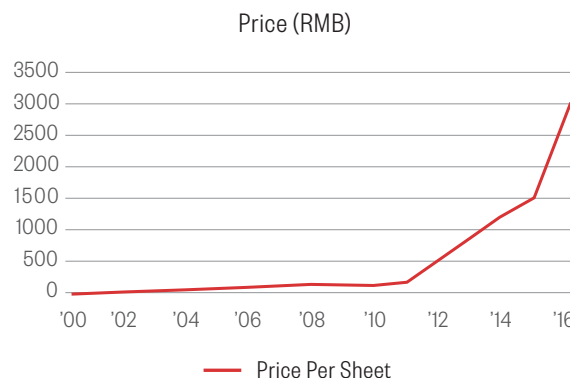


Diagram 2

¹ Gao Suying, "The drop in the number of donkeys and the worsening supply-demand imbalance of Ejiao tonic products," Yiwang Finance, June 27, 2015 at <http://money.163.com/15/0627/01/AT32L7C000253B0H.html#>, retrieved October 5, 2017. (高素英, "毛驴存栏量下降 阿胶滋补品市场供求矛盾显现", 网易财经 2015-06-27, <http://money.163.com/15/0627/01/AT32L7C000253B0H.html#>, 下载时间: 2017-10-5)

² The Health Circle "Ejiao has become a new popular product that costs 5000 yuan per 250 gram and China is looking for donkeys around the world," Souhu Net December 17, 2016 at http://www.sohu.com/a/121822655_139908, retrieved October 5, 2017 (健康界, "阿胶成新贵, 价格暴涨5000元一斤, 中国'满世界找驴'", 搜狐网 2016-12-17, http://www.sohu.com/a/121822655_139908, 下载时间: 2017-10-5)

³ Yang Baolu, "The price of Ejiao is rising to 5000 yuan per 250 gram. China is looking for donkeys around the world," Wangyi Finance, December 16, 2016 at , retrieved October 5, 2017 (杨宝璐, "一斤5000元? 阿胶价格暴涨 中国'满世界找驴'", 网易财经 2016-12-16, <http://money.163.com/16/1216/07/C8D20K580025816P.html>, 下载时间: 2017-10-5)

⁴ China Statistical Bureau, China Statistical Yearbook: 1970-2015, at <http://data.stats.gov.cn/easyquery.htm?cn=C01&zb=A0D00&sj=2015>, retrieved October 7, 2017.

⁵ Shandong Provincial Industrial and Commercial Bureau, State Enterprise Trust Information System (Shandong), <http://sd.gsxt.gov.cn/pub/notice/>, retrieved October 7, 2017.

⁶ Yang Baolu.

There was a short period of low price in the DHG market from 2002 to 2006, mainly due to a price war triggered by competition. During that period, some large DHG companies joined hands to lower down the price in order to force some small companies out of the market. Meanwhile, with the progress of modernisation and mechanisation of agriculture, the donkey population has dropped since farmers are keeping fewer donkeys. Therefore, the cost of donkey hides has increased. **To maintain low-price, some companies have resorted to fraudulent practices by using horsehide, mixed leather, even industrial leather and so on to fake DHG.** The negative effect of such activity still remains.

Dong'e DHG company has raised its selling price since 2006 once or twice a year or once every other year. In total, the price has been raised 16 times over 10 years.

In 2002, one kilogram of DHG reached RMB 100. Since then, the price has been rising. After Shandong Bureau of Commodity Price stopped government price fixing on donkey hide in 2010, DHG price showed the highest rise by 60% at one time in 2011. Specifically, the price of Dong'e DHG was RMB 3,978 per kilogram in 2015 and RMB 4,730 per kilogram in 2016, an increase by almost RMB 800. The price of Fujiao product was RMB 2,760 per kilogram in 2015 and RMB 3,960 per kilogram in 2016, an increase by RMB 1,200. The other brands have also increased their prices on average by 30%.⁷

Every year in China, four million donkeys are slaughtered for making DHG. Thousands of donkeys are killed each week. Donkeys raised specifically for ejiao production, either on donkey farms or by individual farmers with other animals and only a few donkeys, live less than three years before being slaughtered and skinned. Higher demand for donkey hides brings about mass slaughter and threatens the domestic donkey population. According to statistics, the total population of donkeys in China had reduced by 52.5%, from 12.7 million in 1954 to 6.03 million in 2013. It is still going down at a yearly rate of 3% to 5%.

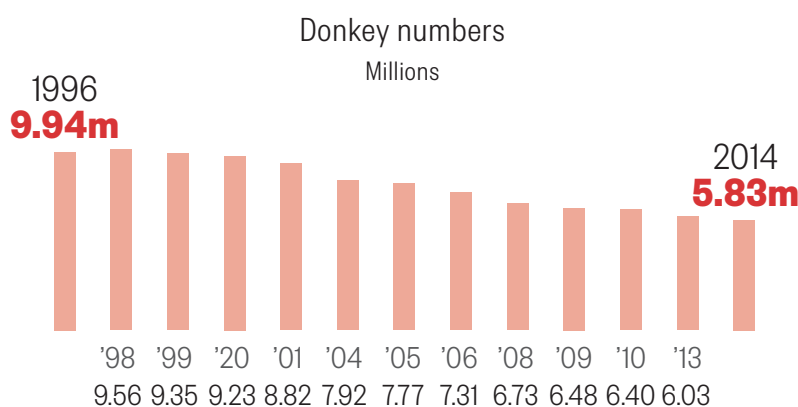


Diagram 3 China's domestic donkey population decline: 1996 to 2014

DHG Export from China

The export of DHG has increased partly due to the active promotion by the DHG producers and partly due to increase of Chinese immigrants in the countries concerned. The export of DHG is for satisfying the health or medicinal needs of Chinese nationals overseas or Chinese who emigrated to the foreign countries. From the statistics of China's customs information network (www.haiguan.info), we found that the export of DHG pills in the first 10 months of 2017 reached \$100 million. The top 20 countries and regions of China's DHG export are as follows:

	Import Quantity (\$US)		Import Quantity (\$US)
Hong Kong	\$47 million	Russia	\$2.4 million
Japan	\$13 million	Holland	\$1.6 million
U.S.A.	\$12 million	Macau	\$1.5 million
Malaysia	\$7.9 million	Taiwan	\$822,504
Singapore	\$6.3 million	Hungary	\$719,082
Vietnam	\$4.7 million	Congo	\$543,045
Indonesia	\$4.7 million	Myanmar	\$419,950
Australia	\$4 million	Mozambique	\$337,796
Canada	\$2.8 million	North Korea	\$199,272
Korea	\$2.7 million	Cameroon	\$172,780

The top 20 markets of DHG are the countries and regions where Chinese, or people of Chinese decent, live or where traditional medicine derived from the Traditional Chinese Medicine has been practiced such as Korea, Vietnam, and Japan. It is yet to be known if these markets are saturated already or if there is the potential for continuous growth. But, the export data in 2015, 2016 and the first 10 months of 2017 seems to indicate that DHG export is not particularly promising. The export to the top 20 markets has been declining as Diagram 4, Total Value of the Top 20 Export Markets, shows.

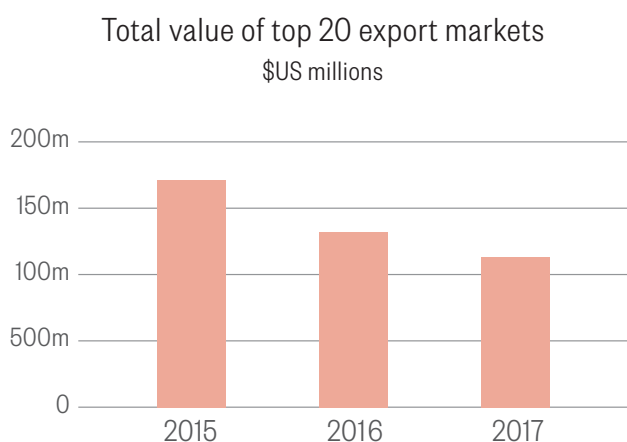


Diagram 4

⁷ World Economic Report, "Dong E Ejiao saw a 40 times increase in price: a raw material shortage has worsened," January 7, 2017, at <https://wenku.baidu.com/view/e9bc711f6fdb61aff00bed5b9f3f90f76c64dca.html>, retrieved November 10, 2017.

⁸ State Statistical Bureau, China Statistical Yearbook, 1997-2015 accessible via <http://data.stats.gov.cn/easyquery.htm?cn=C01&zxb=A0D00&sj=2015>, retrieved October 10, 2017.

The DHG industry threatens donkey populations in other countries

According to UK based charity, **The Donkey Sanctuary**, there are currently 15 countries who have stood against the trade in DHG. They state that some have gone through the formal legislative route like Mali, Niger, and Burkina Faso, whereas others have blocked export by preventing certain things like veterinary inspections and transport permits from being issued. Fourteen of those are African whilst the other country to make a stand is Pakistan.

According to a BBC report, Burkina Faso has banned the export of live donkeys and donkey hides to China. It has regulated donkey slaughter within its borders for the protection of the population. In 2015, its donkey hide export rose from 1,000 in the first quarter to 18,000 in the fourth quarter. The number reached 65,000 in the first half of 2016⁹. As an underdeveloped country in west Africa, Burkina Faso has 1.4 million donkeys in total¹⁰. Those that have been exported to China were not small in quantity.

Niger is another country that declared a donkey export ban to China. It exported 27,000 donkeys to China in 2016 and 80,000 in 2017. Driven by the high demand, the price of one donkey hide rose from \$4 USD several years ago to \$50 USD by 2017, while a live donkey went up from \$34 USD to \$100–145 USD.

Donkeys are mainly used for transportation and occasionally as a source of meat in Niger. The export and slaughter of a large number of donkeys threatens the local donkey population.



DHG properties are exaggerated

Chinese consumers are led to believe that DHG has great healing properties since it is so expensive. But the consumers would be disappointed if they knew the truth. The DHG they buy at the price of a “magic medicine” has less nutrition than a cabbage. The main component in DHG is actually similar to that in many daily foods i.e. protein. Crude protein and collagen protein account for 75.1% and 48.21% respectively in DHG. Although it is rich in many kinds of amino acids, only 15.98% to 20.22% of these acids are needed for the human body¹¹. As a product of animal skin, the collagen protein contained in DHG could be obtained from hog skin, sheepskin or ox hide if processed by the same method of DHG production.

In February 2018 media reports said China’s official National Health and Family Planning Commission has advised consumers that ejiao is “not worth buying” and despite its many health claims is “just boiled donkey skin”. The Commission operates the official 12320 medical advice and information hotline, and tweeted that the product “is not a good source of protein” and that its health claims were at best overstated. Soon afterwards

the center deleted it and apologised for publishing the article claiming it was created by others. Then according to China Daily, a nutritionist at the China Food Information Center named Ruan Guangfeng told the newspaper that the effects of ejiao have been exaggerated, and that pork, which is much cheaper, can also produce the effects claimed by the product.

Collagen protein, just like the other proteins, can only be absorbed by the human body through digestion. Judged by the nutritional value, it is an inferior protein, which is not the right kind of amino acid for the human body. It is used only as an additive in the food industry in most countries. The “panacea” DHG is no different from an ordinary food.

The claim of a special “mysterious component” in DHG is nonexistent from a scientific point of view. The process of DHG production includes the boiling of the processed donkey hide in water for an extended period of time until it turns into jelly. Boiling can only cause general reactions such as cross-linking or hydrolysis among the edible ingredients. No new medicinal elements are generated. We can therefore say that, DHG, lacking medicinal properties, has little capacity for increasing white blood cells and platelets. It is not a medicine for improving life quality and the physical strength of an anemia patient.

Furthermore, a large number of DHG products in the market are poor in quality. To save costs, many producers use leather trimmings, horsehide and ox hide, etc. instead of donkey hide to make DHG. The heavy metal substances contained in the industrial materials might harm human health. In a random inspection by Shandong FDA in 2015, two batches of samples from a total of 100 were detected as non-conforming products¹². They had a higher content of inorganic impurities which means that the manufacturers added non-biological additives in the course of the production. A Macau Daily report found that 4 groups of DHG products, selected randomly, did not conform to the industrial standards. The report also confirmed the presence of ox hide in the product. Adulteration of the product was therefore confirmed.¹³

In addition to the absence or small presence of the medicinal properties, **poor quality DHG is more likely to contain harmful substances such as chromium, lead, mercury, arsenic and others.** Chromium, found in the trimmings of leather shoes, belts and bags, is used in the production of DHG to reduce cost while lead, mercury and arsenic found in DHG comes mainly from illegal additives.¹⁴ **Long-term intake of these harmful substances may cause immune system disorders, damage to the nerves, endocrine, liver and kidney systems and can cause cancer.** Chromium, although a necessary microelement to human body, will cause diseases including dermatitis, gastroenteritis haemorrhagica, acute kidney failure and lung cancer if taken in excessive amounts.

<p>Public statements have been made that ejiao is</p> <p>not worth buying</p>	<p>Many products are poor quality with toxic ingredients and therefore life</p> <p>endangering</p>
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⁹BBC News, "Burkina Faso bans donkey skin exports, affecting Asian trade," BBC News, August 10, 2016 at <http://www.bbc.com/news/world-africa-37035229>, retrieved October 12, 2017.

¹⁰ La Mei, "China is in short supply of donkeys when Ejiao becomes the drug for the rich," Food Commerce Net, July 26, 2017 at <http://news.21food.cn/13/2810073.html>, retrieved October 7, 2017.

¹¹ Sun Penghao and Li Xing, "The increase of price of Ejiao has become controversial again; body-building and nourishing or worth little like cabbages?" China Finance Net, November 23, 2016 at <http://finance.china.com.cn/news/20161123/3999478.shtml>, retrieved October 12, 2017.

¹² Shandong Food and Drug Administration, "Two batches of Ejiao health products did not pass quality check," China Quality News Network, November 11, 2015 at http://www.cqn.com.cn/news/xfpd/cggg/dfcc/2015/1094245.html?ADUIN=709545464&ADSESSION=151373714&ADTAG=CLIENT.QQ.5545_Q&ADPUBNO=26749#userconsent#, retrieved October 12, 2017.

¹³ Macau Public Health Bureau, "Four Batches of Ejiao Products with Cow Skin Were Seized," August 31, Macau Daily at https://www.cybercrtm.com/zh_TW/news/detail/1469874#Wp_xiWrwUk, retrieved November 17, 2017.

¹⁴ KKnews, "Ejiao: the price of cocaine, but the properties of a cabbage," a kknews story of December 5, 2016 at <https://kknews.cc/health/jv43az6.html>, retrieved November 15, 2017.

Field investigation

In order to compare and verify information collected through the literature review, we undertook a field investigation from October 25 to November 10, 2017, travelling more than 3,000 km to 11 counties in four provinces.

We went to DHG major production areas, locations exposed in the many negative news reports. These are the areas where DHG is produced and raw materials are supplied. These areas are deep in the countryside of Shandong, Henan, Hebei and Liaoning provinces. We had to resort to open and undercover approaches to conduct the investigation through our local contacts. Information including photos and videos were collected.

The companies we investigated included:

Shandong Dong'e DHG Holding Co., Ltd.,

Shandong Fujiao Group, Xiyantang DHG Product Co., Ltd. in Dong'e County,

Shandong Ziyantang DHG Product Co., Ltd.,

Yuyantang DHG Product Co., Ltd. in Dong'e County,

Shandong Guyun DHG Product Co. Ltd. in Echeng town,

Shandong Yuejiazhuang DHG Co., Ltd.,

Shandong Zongdetang DHG Co., Ltd.

Place of DHG origin

Most of the DHG in China comes from Liaocheng city of Shandong province. The city is known for DHG.

It is believed that ejiao (DHG) was named after its place of origin, Dong'e of Shandong. Tao Hongjing, a famous ancient Chinese pharmacologist, stated in his work: "(It) originated in Dong'e, so named as ejiao." Dong'e is currently Echeng town of Yanggu County, called E or Eyi in the Warring States period and changed to Dong'e County in Qin Dynasty. The production center of ejiao had experienced three major relocations. The first was moved from Echeng town to Dong'e town of Pingyin in the North Wei period. The second was moved from Dong'e town to Jinan in Ming Dynasty. The third took place after the founding of the People's Republic of China, moving from Jinan to Dong'e County. With all three places combined as the production centers of ejiao, the Chinese name of DHG is never changed, which means that DHG production is not restricted because of geography or source of raw materials.

After development and promotion for so many years, Dong'e ejiao has become a geographical indication. Most of the DHG companies tried to link with Dong'e in every possible way for naming and promoting their own products.

Liaocheng city lies in the central plains with convenient transportation. The surrounding provinces such as Shandong, Hebei, Henan and Shanxi are major agricultural provinces with a rich supply of DHG raw materials. Harbours like Qingdao, Yantai and Rizhao in Shandong offer convenience in importing donkeys from other countries.

DHG output

The DHG industry has seen expansion in recent years with an enormous production capacity, output and sales. The business profit is not very high, but it is stable. The existing DHG output is around 14,000 tons, of which 8,000 tons, about 60%, is from Dong'e DHG and Fujiao Group. The whole DHG industry has seen competition between these two giant companies.

According to data in the **Analytical Report of Chinese DHG Industry Market Demand and Investment Plan 2017-2022** published by Prospective Industrial Research Institute, the general capacity utilization of Chinese DHG industry was quite low. The national output of DHG was 5,600 tons in 2016. Take the top company Dong'e DHG for example. It has the capacity of producing 4,000 tons of DHG. But the actual output is only 1,600 tons, 40% capacity utilised.

There are more than 100 DHG companies in China. Besides the two large ones, most of the smaller companies produce 100 to 200 tons per year. The national sales are around 6,000 to 7,000 tons. According to relevant statistics, the sale of DHG in 2015 was 5,219 tons.

With the improvement of people's life, the public pays more attention to health. The DHG industry invested more in product promotion in recent years, feeding the alleged DHG nourishing properties to more people. Statistics shown that the market scale of DHG grew from RMB 6.4 billion (\$984 million USD) in 2008 to RMB 34.2 billion (\$5.25 billion USD) in 2016, with the CAGR (compound annual growth rate) of 23.3%.

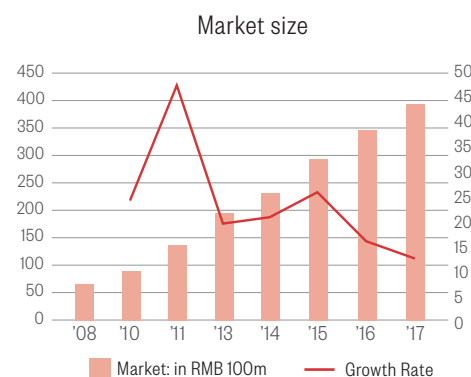


Diagram 5

Changes of DHG market value in China: 2008 to 2017

Product varieties

Although it has different names, DHG products generally fall into the following categories.

DHG piece (OTC) The original form of DHG for use mainly as a raw material for downstream products and rarely taken directly.

DHG syrup (healthcare product) The key product of Dong'e DHG Group with a confidential formula. It is edible. Other companies also have similar products.

DHG cake (food) Also known as Guyuan Cake, made from DHG, walnut, black sesame, crystal sugar and so on, edible. It is the most popular DHG product and bought by most consumers.

DHG date, etc. (food) made from DHG and dates.



Ejiao on sale in Sydney Australia.
Source: Humane Society International



Sources of donkey hide

China's current demand for donkey hide is around 4 million sheets. Since the domestic donkey population has dropped to 5 million, only 1.2 million can be slaughtered. To make up the shortage, DHG makers began to import donkey hide from other countries.

Dong'e DHG Group owned seven donkey farming operations to provide donkey hide:

1. Xinjiang Yuepu Tianlong Food Co., Ltd.,
2. Shandong Dong'e Tianlong Food Co., Ltd.,
3. Inner Mongolia Tianlong Food Co., Ltd.,
4. Shandong Wuli Tianlong Science Developing Co., Ltd.,
5. Dong'e DHG Yili Longxing Husbandry Co., Ltd.,
6. Dong'e DHG Fuxin Science Developing Co., Ltd., and,
7. Dong'e DHG Gaotai Tianlong Science Developing Co., Ltd.

It also has some cooperative smaller farms.

Even with so many farms, Qin Yufeng (the president of Dong'e DHG) disclosed that about 20% of their donkey hides came from imports.

Fujiao Group is located in Dong'e township with an old factory.

We saw dried donkey hides aired and scattered on the ground, and more donkey hides stored in the yard with or without plastic cover.

In the old factory, only the donkey hide warehouse is open to visitors.

Factory workers told us that the stored donkey hides came from purchases from other places and some of them were imported.

But they offered no further information about the imports. We did not get additional information about the farms owned by Fujiao Group.

After the shortage of 2015, many producers have been storing donkey hides.

Dong'e DHG, as an example, has reportedly hoarded donkey hides worth over

RMB 1 billion. Due to state regulation on the environment surrounding the premises of businesses, Dong'e Group failed to dry the stored hides, causing damage to hides worth RMB 200 million.

Through our field investigation, we found no serious shortage existed in the supply of donkey hides. Every middle and large sized DHG producer has a sufficient storage of donkey hides.



Donkeys await slaughter, Baringo, Kenya
Source: The Donkey Sanctuary

Donkey hide by origin

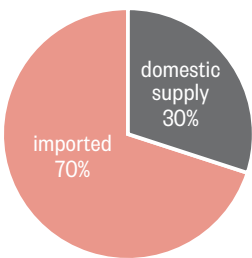


Diagram 6



Donkeys on their way to the slaughterhouse near Dong'e China
Source: George Knowles

Although the donkey farming industry has gained government support, importing donkey hides from overseas has affected domestic donkey farmers' profits. **The imported low cost of foreign donkey hides has been increasing, undercutting the price of domestic donkey hide down by half**, from RMB 160 per kilogram to less than RMB 100 per kilogram.

The large amount of donkey hide imports might also affect the donkey population in other countries.



Donkey hide storage in Fujiao Group

Donkey slaughter

We failed to locate a centralised donkey slaughter operation. However, we found from a donkey hide supplier that centralised donkey slaughter operations may exist in some donkey farms. Most donkey hides are procured from individuals or slaughter operations that may or may not specialise in donkey slaughter. Most donkeys are slaughtered by owners or by donkey meat dealers when these animals are old or are dying. They sell donkey hide (about 20% of the value of the slaughtered donkey) to donkey suppliers who resale the materials to DHG producers.

The domestic donkey hides are purchased from individual slaughterers and sent to the DHG companies. **The donkey is killed by donkey meat dealers. They typically hit repeatedly the head of the animals with a hammer until it drops dead.** In a rural donkey slaughter operation, we witnessed the slaughter of a donkey. It struggled to stay alive after being hit several times on the head. Its death took about five minutes.



Donkey slaughter and skinning in Dandong

Donkey hide storage in Fujiao Group



Ghana donkey skins
Source: The Donkey Sanctuary

DHG production facilities

Large companies usually have a better environment and better transparency. Dong'e Group has an independent sewage disposal system. The outdoor environment and green areas in the large companies are generally good.

Currently the government imposes strict rules against environmental pollution. According to the president of Xiyantang, the water they used to wash the donkey hides was directly supplied by Dong'e County at the price of over RMB 30 per ton (sewage disposal fee included), several times the market price of the water supply. Xiyantang had installed sewage disposal and emission testing systems (required by the local government as a condition for getting production permits).

Compared to the large companies, the middle-sized ones fall behind in the environmental conditions. Shandong Ziyantang DHG Product Co., Ltd. with a registered capital of RMB 3 million has a dirtier internal working area. It did try to avoid waste water disposal to the surrounding areas.

In contrast to the large companies, small companies operate in violation of the state and local environmental regulations. We discovered that a gelatin factory in a remote village discharged sewage secretly into the surrounding areas, causing serious environmental pollution. The sewage was also discharged through an underground tunnel into a nearby river. The river was sickeningly smelly. Seeing our presence, the factory was temporarily closed.



Indoor environment of Dong'e DHG Group



Donkey hide warehouse
in Shandong Ziyantang DHG Product Co., Ltd.



Beneton factory, Dong'e, China
Source: George Knowles



Sewage tunnel and a polluted river near Taiqian County Wuba Village gelatin factory



Donkey hide cleaning room in Shandong Ziyangtang DHG Product Co., Ltd.



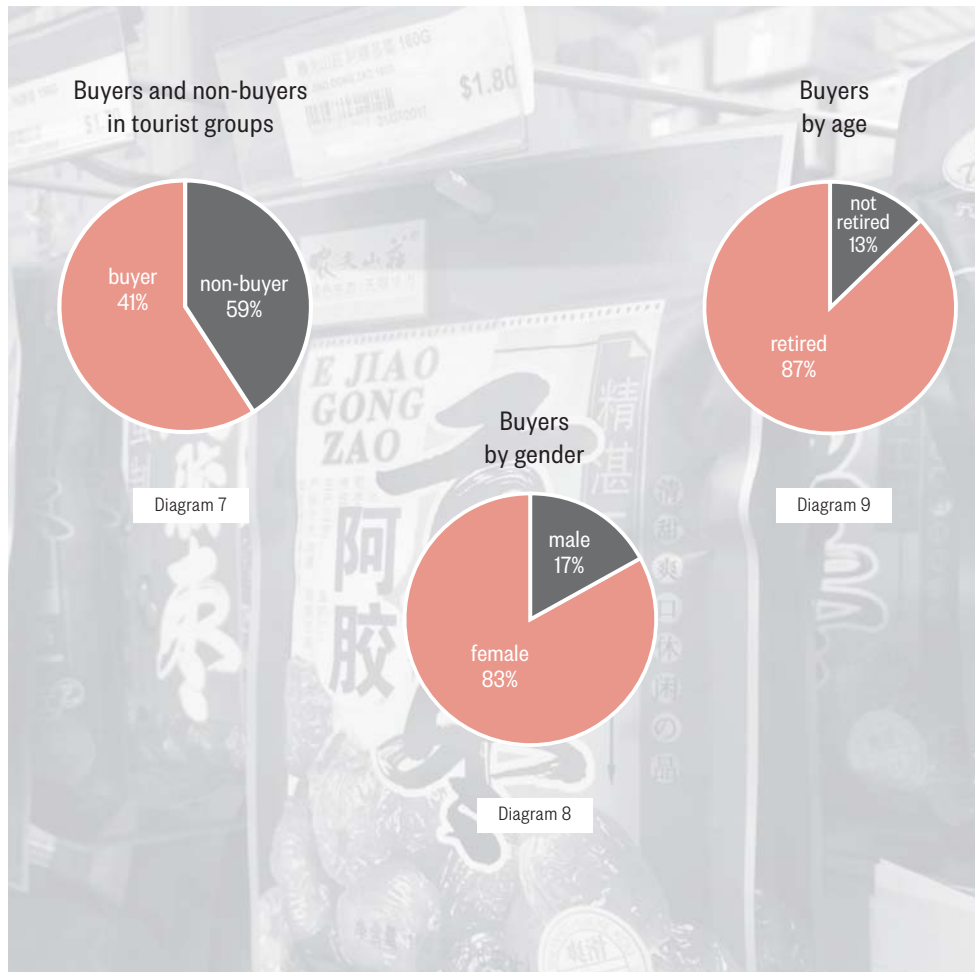
Donkey hide hair and grease removal (left) and DHG boiling (right) in Shandong Ziyangtang DHG Product Co., Ltd

Some companies flout environmental regulations
and pollute waterways with
sickening sewage

One facility temporarily closed during
our visit in an attempt to
hide effects

A survey of consumers

There are a dozen tourist groups visiting the large DHG companies in Dong'e County. Most of the visitors are elderly people and women. There were also some businessmen from Anhui province who came to explore business opportunities. With two such visiting groups, we visited Fujiao Group. Among the 58 members of 16 males and 42 females, 24 (41.4%) bought DHG products at the urge of the tour guide. The buyers included 20 females (83.3%) and four males. Most of the visitors were retirees except for three of them.



Fujiao Group products display

Nationwide survey results

We conducted a nationwide DHG consumption and awareness survey. One thousand questionnaires were distributed in 10 cities (including Beijing, Tianjin, Qingdao, Xi'an, Shijiazhuang, Zhengzhou, Wuhan, Shihezi, Dandong and Dalian). We received 865 valid responses. Those who have bought DHG accounted for 32.4% (280 individuals out of 865).

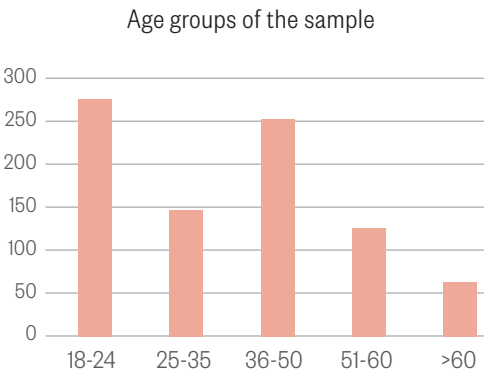


Diagram 10

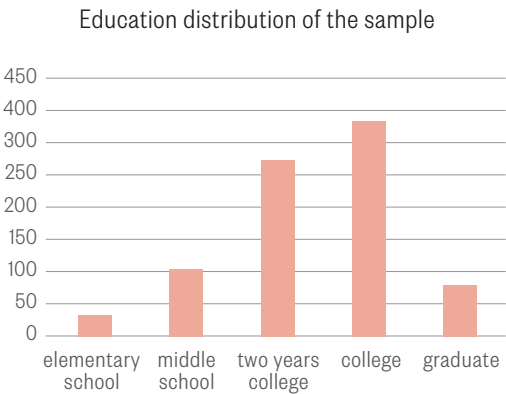


Diagram 11

The majority of the DHG buyers were people having completed at least two years at college, accounting for 93% of the total. Those aged between 36 to 50 are major groups of buyers accounting for 47%. Female buyers made up 74% of the total.

Looking at the data more closely, we found that some buyers had little knowledge about the medicinal properties and raw materials of DHG. Nineteen per cent of buyers had no idea that DHG was made from donkey hide. Only 32% of them were knowledgeable about the properties of DHG. Not all buyers consume DHG themselves.

They purchased DHG as gifts for friends or families.

About 28% of the total surveyed samples did not know that DHG was made from donkey hide. They did not know that China imported donkey hide and live donkeys for DHG production. Also 66% of the respondents agreed that the claimed medicinal properties of DHG were exaggerated and 57% of those who bought DHG had the same opinion.

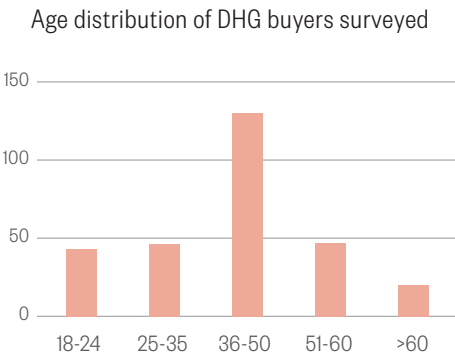


Diagram 12

DHG buyers by level of education

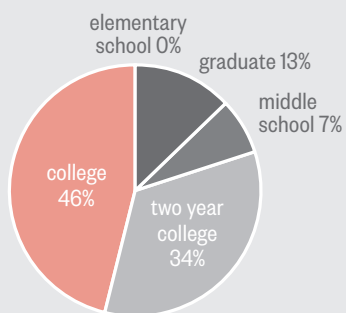


Diagram 13

Surveyed DHG buyers by gender

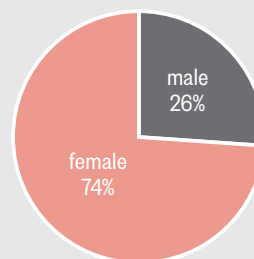


Diagram 14

Buyers' understanding of DHG functions

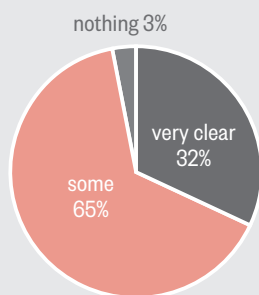


Diagram 15

Surveyed buyers' understanding of DHG raw material

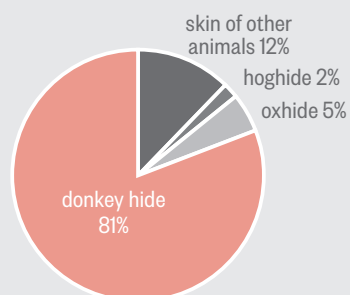


Diagram 16

Table 2 DHG eating experience (above) and purpose of DHG purchase (bottom)

DHG Consumption		
Often	120	42.9%
Occasionally	134	47.9%
Never	26	9.3%
DHG Consumption		
Pharmacy	85	30.4%
Health Supplement	174	62.1%
Gift	26	9.3%

Table 3 Surveyed buyers' understanding of donkey hide import to China

Do you know that DHG causes killing of donkeys abroad?		
Yes	287	33.2%
No	578	66.8%

Table 4 Surveyed samples' opinion on truth of the functions of DHG

Do you think that DHG's functions are true? (survey sample)		
Yes	293	34.4%
Exaggerated	558	65.6%

Table 5 Surveyed buyers' opinion on truth of the functions of DHG

Do you think that DHG's functions are true? (surveyed buyers)		
Yes	120	42.9%
Exaggerated	160	57.1%



Summary

Although it was used as a TCM medicine in ancient times, DHG was never widely used. Both donkey and ox were traditionally used as a working animal for farming, not for making DHG. **The alleged medicinal properties of DHG are suspect. No one, not even the TCM practitioners, can claim that DHG is a life-saving medicine that China cannot do without.**

With the promotion of DHG as a medicine and body-building supplement, product adulteration and fraudulent claims were reported in the media. A gang was caught in Shanghai in February 2018 and thousands of boxes of fake ejiao worth US\$6.15 million were confiscated. DHG quality is also an issue. Although many small polluting producers of DHG were closed with increasing government attention on environmental protection, there are still polluting DHG producers in the country.

There is nothing cultural or traditional about DHG. Its alleged properties have been exaggerated by businesses for the sole purpose of making profits. Therefore, it is business interests, not Chinese traditional culture, that has underpinned the rise of DHG as a drug and health product. Donkeys were traditionally raised as a means of production. China's massive mechanisation in agricultural production has made donkey and cattle power history. Donkey reproduction has gone down, leading to the shrinking of the donkey population in China. The hype of the business interests and demand for DHG has further accelerated the reduction of donkeys.

Since there is a shortage in donkey hide supply, the business interests have turned to foreign suppliers. Most of the imports came from less-developed areas such as Africa where the price was lower. However, donkeys may still be a means of production or used for transportation in these countries. Loss of donkeys in these communities impacts both production and the livelihoods of the people, particularly the more disadvantaged people in these countries. According to UK based charity The Donkey Sanctuary, currently 15 countries have stood against the trade including Niger, Burkina Faso, Mali and Pakistan.

Do we really need DHG for public health purposes? Our investigation found that DHG products appeared in the market as health supplements, food or gifts, not as essential or life-saving drugs. According to China Daily, a nutritionist at the China Food Information Centre named Ruan Guangfeng recently stated that the effects of ejiao have been exaggerated, and that pork can also produce the effects claimed by the product. Some consumers, even some who often eat it, do not know what it is made from and what medicinal effects it has. They just follow others and buy what the media and advertisements have promoted.

DHG currently serves the commercial purposes of the producers. However, with increasing domestic and international criticism, DHG production will encounter difficulties. DHG export seems to have slowed down since 2015. The economic interests of DHG producers, a group of businesses that contribute very little to China's GDP, are currently causing reputational risk to China on animal welfare and humanitarian grounds.



The trade in ejiao is a threat to donkey
welfare, human livelihoods and
human health



And all of this suffering for
a product that has

no proven benefit



ejiiao

An investigative report

