



青岛市秸秆综合利用现状

Status of Integrated Straw Utilization in Qingdao



青岛市农业机械管理局
Qingdao Agricultural Machinery
Administration

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提纲 Content

- 我市秸秆综合利用基本情况
Statues of Integrated Straw Utilization
- 存在困难及原因分析
Difficulties and reasons
- 今后打算
Work plan

青岛市地处山东半岛南部，为海滨丘陵城市。青岛市耕地面积780万亩，旱地285万亩，约占耕地面积的36.5%，主要为小麦玉米一年两熟区，玉米种植面积360万亩，小麦种植面积353万亩。

Qingdao is located in the southern of the Shandong Peninsula. The cultivated land area of Qingdao is 520,000 ha , and the dry land 160,000 ha, accounting for 36.5% of the cultivated land area. It is mainly two-crop-a-year wheat and corn area, corn planting area of 240,000 ha, and wheat planting area of 235,333 ha.





截止到2017年底，全市农机总动力达到 **728万千瓦**，农作物生产机械化综合水平达到**87.2%**，小麦机收率**达到99%**，玉米机收率**达到90%**。

By the end of 2017, the total power of agricultural machinery reached 7.28 million kW, the comprehensive mechanization level of crop production reached 87.2%, mechanical harvest of wheat reached 99%, and mechanical harvest of corn reached 90%.

青岛市秸秆综合利用主要有五种途径:一是秸秆**肥料化**;二是秸秆**饲料化**;三是秸秆**燃料化**;四是秸秆**基料化**;五是秸秆**原料化**。

In Qingdao, straw utilization is mainly divided into five options: straw used for fertilizer, fodder, energy resource, base stock and industry material .



一、我市秸秆综合利用基本情况

Statues of Integrated Straw Utilization

我市年产生各类农作物秸秆435万吨，可收集量约**400万吨**。其中：小麦秸秆151万吨，玉米秸秆207万吨，花生秸秆39万吨，其它作物秸秆3万吨。我们一直坚持政策引导、财政扶持、市场推动、农民受益的工作思路，大力推进农作物秸秆肥料化、饲料化、燃料化、基料化、原料化“五化”综合利用技术，建立起农作物秸秆综合利用长效机制。2017年，全市农作物秸秆综合利用量**368万吨**，综合利用率达到**92%**，高于全国平均水平10个百分点以上，高于全省4个百分点。



In Qingdao, 4.35 million tons of various types of crop straw are produced every year and 4 million tons can be collected. There are 1.51 million tons of wheat straw, 2.07 million tons of corn straw, 390,000 tons of peanut straw, and 30,000 tons of other straw. In 2017, **3.68 million tons** of crop straw was used, and the integrated utilization rate reached **92%**, which was higher than the national average by more than 10%, 4% points higher than the province.



(一) 秸秆肥料化利用 Straw used as fertilizer

- 我市秸秆肥料化利用量**217万吨**，占可收集量的**54.25%**。

There are **2.17 million tons** of straw used as fertilizer, accounting for **54.25%** of the collectable straw.

- 肥料化重点推广技术：保护性耕作秸秆还田和秸秆生产有机肥技术。
Straw decomposing, Straw returning and Conservation tillage, Straw organic fertilizer

- 利用**购机补贴政策**，优先补贴秸秆还田、离田机械，加大农作物秸秆机械还田和机械离田工作力度。

Subsidy policy will give priority to buy straw returning machinery, and increase the intensity of crop straw returning.



(二) 秸秆饲料化利用 Straw used as fodder

- 我市秸秆饲料化利用量**106万吨**，占可收集量的**26.5%**。

There are **1.06 million tons** of straw used as fodder in Qingdao, accounting for **26.5%** of the collectable straw.

- 饲料化重点推广技术：秸秆青贮微贮氨化、集成玉米秸秆农牧结合综合利用等。

The application of straw silage, micro-storage and ammoniation have been promoted.

- 按照“以养带种、种养结合”的原则，在奶牛、肉牛和肉羊生产的优势区域，积极发展青贮专用玉米等饲料作物，推广“粮改饲”，推动粮经饲统筹、种养加一体发展，年实现农作物秸秆等青贮**120万吨**以上。

Integrate agriculture and animal husbandry utilization of maize straw and more than **1.2 million tons** of maize straw used as silage every year.



(三) 秸秆燃料化利用 Straw used as energy resource

- 我市秸秆燃料化利用量**25万吨**，占可收集量的**6.25%**。
250,000 tons straw used as energy resource, accounting for 6.25% of the collectable straw in Qingdao.
- 青岛已建示范点：大沽河流域3万亩农业面源污染综合防治试点区、即墨南泉社区秸秆气化站、平度市南村镇秸秆生物天然气工程等，既提供了燃料，又解决了秸秆处理问题。

There are several demonstrated sites in Qingdao, such as the Dagujia River basin pilot areas for comprehensive prevention and control of agricultural pollution, the straw gasification station in Nanquan community of Jimo city and the project of straw bio-natural gas in Nancun Town, and so on, Pingdu City. Straw used as energy resource not only provides fuel, but also solve the problem of straw utilization.



(四) 秸秆基料化利用 Straw used as base stock

我市秸秆基料化利用量**16万吨**，占可收集量的**4%**。主要推广利用小麦、玉米等秸秆加工栽培基料、养殖基料技术，支持秸秆生产食用菌菌包和菌渣生产饲料、有机肥、栽培基料等。近年来，我市主要推广应用秸秆养殖食用菌技术，到2017年底，全市建成食用菌菌种、菌包厂8个。



There are 160,000 tons of straw used as base stock in Qingdao, accounting for 4% of the collectable straw. It mainly promotes the use of wheat, maize and other straw processing and cultivation base materials and culture base materials technology, and supports straw production of edible fungi and slag production feed, organic fertilizer and cultivation base. In recent years, the city mainly promotes the application of edible fungus technology for straw cultivation. By the end of 2017, the city has established 8 edible fungus strains and mushroom packaging plants.

(五) 秸秆原料化 Straw used as industrial material

- 我市秸秆原料化利用量**4万吨**，占可收集量的**1%**。

There are **40,000 tons** of straw used as industrial material in Qingdao, accounting for **1%** of the collectable straw.

- 秸秆原料化主要以**小麦、玉米**等农作物秸秆为原料，生产秸秆**人造板材、复合材料、生物质发电**等。

Wheat and maize crop straw is the main resource for industrial material, which is used for artificial plate and composite materials making and biomass power generation.



二、存在困难及原因分析 Difficulties and reasons

(一) 农民对秸秆综合利用认识不到位

虽多部门联合发布《关于加强秸秆禁烧工作的通告》，但对秸秆综合利用没有强制性规定，相当一部分秸秆被随意遗弃。

(1) Farmers consciousness need to be increased

There is no mandatory regulation on utilization of straw, a considerable part of the straw is randomly abandoned.

(二) 秸秆综合利用经济效益不显著

农作物秸秆回收利用更重要的是生态效益和社会效益，经济效益并不显著，秸秆能源化利用前期投资较大，回报率低。

(2) The economic benefits are not significant

The recycling of crop straw is more important for ecological and social benefits, but the economic benefits are not significant. The investment for straw used as energy resource is relatively large, and the rate of return is low.

二、存在困难及原因分析 Difficulties and reasons

(三) 秸秆收贮体系不健全

政府对秸秆回收不够重视，没有将秸秆收贮体系建设纳入到工作议事日程。目前，我市还没有建立有效的秸秆收集储运和利用体系，秸秆回收量不足，严重影响企业加工生产能力和可持续发展。原料收集困难，导致企业开工运行不足。

(3) The straw recycling and storage system need to be improved

The government did not pay enough attention to straw recycling and has not established an effective system of straw collection, storage, transportation and utilization. The amount of straw recovery is insufficient, which seriously limits the processing capacity and sustainable development of enterprises.

(四) 农民回收利用秸秆的积极性不高

农业经营主体规模都比较小，秸秆收储运比较困难，政府扶持力度比较小，投入不足，秸秆综合利用还处于初期的发展阶段。回收秸秆远低于打工收入，农民积极性不高。

(4) The enthusiasm of farmers should be increased

The scale of agricultural management is relatively small, and the integrated utilization of straw is still in the initial stage of development. The income of straw utilization is much lower than the other jobs.

三、今后打算 Workplan

- 1) 积极探索农牧结合秸秆综合利用模式，提高农作物秸秆回收和综合利用率
Explore straw integrated utilization patterns, improve the rate of straw recovery and utilization
- 2) 政府主导，充分调动企业、农民的积极性
Government-led, increase the enthusiasm of enterprises and farmers
- 3) 经济效益，社会效益和生态效益并重
Equal importance of economic, social and ecological benefits
- 4) 加强规划引导、产业化推动和政策扶持，完善政策法规体系
Strengthen the guidance, industrialization promotion and policy support, and improve policies and regulations
- 5) 建立健全秸秆收贮和技术研发支撑体制机制，加大财政补贴力度
Establish and improve the supporting system for straw storage and technology research, increase financial subsidies



汇报完毕，感谢各位领导！
Thank you!