

Study on Straw Prohibition in Heilongjiang Province

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Keywords: Heilongjiang province; The straw; Ban on burning

Abstract: Heilongjiang province adheres to the goal of improving the comprehensive utilization rate of straw, protecting the ecological environment and improving the quality of cultivated land, and actively promotes the treatment of straw for environmental protection, contributing to winning the battle of protecting the blue sky. To understand the current straw processing is completed, the work are faced with the problem, the NBS survey office in Heilongjiang province in the province of 8 counties (city) to carry out the survey, the results showed that straw processing is better, work around the straw stalk comprehensive utilization is higher, have been found due to the low germination rate and disease and insect phenomenon caused by the straw returned, but the straw handle problems still need to work seriously, the government need to grab from the source, the top-level design.

The Overall Situation of Straw Treatment is Good

In 2018, farmers in all parts of the province had a high degree of cooperation with the no-burning policy of straw, and centralized treatment of straw was carried out according to the requirements. The main method was centralized packaging of straw plots away from the field. Farmers did not need to pay or pay part of the cost.

High Utilization Rate of Straw in Different Regions. According to the survey results of 8 cities and counties including Mudanjiang, Binxian, Bayan, Ningan, Hailin, Qinggang, Tongjiang and Jixian, the average straw utilization rate of the above 8 cities and counties was 71.9%, among which Jixian county had the lowest utilization rate 57.8%; Tongjiang had the highest utilization rate, 84.3%; the utilization rate of the remaining six counties (cities) is between 63 and 77.8 percent.

Straw-related Industries are Booming. Faced with the overall environment of banning straw burning in Heilongjiang province and the continuous increase of government investment, many enterprises in related industries have been attracted to put into production, and the number of agricultural machinery cooperatives has increased accordingly. For example, in Bayan county of Heilongjiang province, 32 straw curing stations will be built in 2018, which will increase the processing capacity of straw by 412,500 tons. In 2018, feed subsidies in Jixian county involved 14 new business entities, an increase of 8 over the previous year. Meanwhile, the county built 6 straw curing and molding fuel stations, an increase of 5 over the previous year. Hailin city has pushed forward the transformation of straw into feed, and has signed relevant agreements with xinjiang company. It is expected that the processing capacity of straw will reach 100,000 tons.

Local Governments Increased Input. Under the background of the positive support from provincial finance, local governments at all levels also increase the investment in straws from the field. If Ningan city adopts loan, discount interest, "rent machine for collection" and other ways, investment capital of nearly 10 million yuan, the existing straw department of agricultural machinery and equipment has reached 573 (set). Hailin city invested a total of 15.34 million yuan in special funds to purchase 120 sets of straw compressing and returning machine, 26 sets of feed-chemical baler, 70 sets of no-tillage planter and 36 composts.

Prohibition of Straw Burning has an Impact on the Planting Structure of Farmers. According to the investigation on the planting intention of 15707 farmers in 113 counties (cities and districts) of the province, the planting area of soybean is expected to be 4.58 million hectares this year, an increase of 1.013 million hectares or 28.4 percent over the previous year. Corn, the main crop that produces straw, is expected to cover an area of 5.318 million hectares, 1 million hectares less than the previous year, down 15.8%. Although the soybean subsidy was significantly higher than the corn subsidy last year, it was greatly affected by the policy subsidy, but it could not be ruled out that it was affected by the comprehensive straw prohibition policy.

Problems and Difficulties Emerge in Focus

On September 1, 2018, Heilongjiang province issued the ban on open burning of straw in Heilongjiang province work rewards and punishments provisional regulations, make the atmosphere environment quality in Heilongjiang province was compared with sharply over the same period last year, although the use of administrative means to effectively solve the open burning of straw, and made some achievements, but there are also some problems in the practical work, worthy of our thinking and to improve, at the same time for the 2019 straw work start organizing ahead of time.

The Treatment Capacity of Straw Fuel Enterprises is Inconsistent with the Actual. Results showed that straw terminal enterprises and straw fuel to make use of the wrong industry development problems, such as biomass power plant design capacity in many places there is a gap with the actual production capacity, a local power plant in the design at the beginning of the 230000 tons of straw consumption, but in actual production, the straw consumption only at 6-70000 tons, the remaining consumption also substitute traditional coal, straw energy consumption do not tally with the actual capacity, was suspected of taking state funds and project subsidies, affect the development process of comprehensive utilization of straw fuel. Hailin city requires enterprises such as the bath center to use straw fuel new energy in their operation, but in fact, most enterprises only use straw fuel when they have to deal with the inspection after the transformation of the new energy boiler, and they still secretly use coal and other traditional fuels in other times. Hailun city of Heilongjiang province is a big agricultural county with huge straw production. The government supports the straw processing enterprises, but the unbalanced production and marketing of straw leads to the anxiety of farmers, who worry that the straw is packaged with money and no one will buy it, leading to the straw is not active from the field.

Uneven in the Process of Transformation, Installation and Propulsion of Fuel Boilers. At present, governments at all levels in Heilongjiang province pay different attention to the promotion of straw fuel new energy boilers, the promotion results are uneven. Taking Hailin city as an example, the project of straw gasification centralized gas supply project in Jiangtou village, Hailin town, has enabled 220 households to use straw gas. Every household USES gas stove to boil water for cooking, which has promoted the process of rural urbanization and saved farmers' living expenses. Take a family of three as an example, according to the daily use of straw gas 3 to 4 cubic meters, the average monthly expenditure of each household is about 30 yuan. According to the calculation of using liquefied gas, the price of each tank of liquefied gas in the market is about 100 yuan. Each household USES 1 to 1.5 tanks of liquefied gas every month, and the average monthly expenditure of each household reaches 100 to 150 yuan. Straw gas is more than 70% cheaper than liquefied gas. But also in Hailin city, other towns to promote straw gas transformation is not obvious, some towns even a household transformation are not. This also reflected from a side in Heilongjiang province in the biological boiler installation and transformation of the gap is obvious.

The Traditional Consciousness of Farmers is not Easy to Change, and There are Obstacles in the Cognition of the Benefits of Promoting the Comprehensive Utilization of Straw. Straw burning in our country has a history of thousands of years, farmers level of traditional ideas, culture and geographical restrictions, accustomed to the previous way of life, also does not have the environmental protection long-term consideration, can't keep up with policy changes, the habit of burning in the long-term, in a short period of time is difficult to change, to comprehensive utilization of straw truly implemented. To change this state of mind, first of all should guide the

peasants from the economic point of view, according to a straw gas station straw consumption of 100 tons, with the market price of 0.30 yuan/kg, farmers straw annual income of up to 30000 yuan, and gasification station operation will maintenance, also solved some problem of employment. Secondly, farmers should be guided to view it from the perspective of environmental protection: the content of sulfur and ash in biomass is only about 1/10 of that of medium-quality bituminous coal, and the carbon dioxide emitted during the production and utilization of biomass energy can be incorporated into the carbon cycle in nature, achieving zero carbon dioxide emission. According to the calculation of 100 tons of straw fuel consumption, 156 tons of coal, 572 tons of carbon dioxide and 6.2 tons of sulfur dioxide can be saved every year.

The Number of Large Off-field Machinery is Insufficient, the Minicomputer Function is not Complete. At present, the main problem of rural machinery equipment in Heilongjiang province is not the total amount, but the lack of large machinery, small machine function is insufficient, but to achieve deep turning large machinery is a necessary condition. Taking a natural village with a land area of 100,000 mu (0.67 hectares) as an example, it requires about 4 large machinery to carry out comprehensive deep ploughing. However, the reality is that most villages in Heilongjiang province cannot complete fast and efficient collection and sorting due to the lack of large agricultural machinery. At present, the proportion of subsidies for farm machinery purchase in Heilongjiang province is less than 30% in principle, but only 10 ~ 20% in practice. Small forklift, forklift, transmission equipment and other straw from the field loading machinery equipment is not covered by the subsidy, the purchase cost is high, affecting the farmers themselves from the field work schedule.

The Investment is Still Insufficient. The current provincial fiscal spending on comprehensive utilization of straw stalk comprehensive prohibition and a large amount of money, local governments and village also on prohibition of fight control link, also spend a lot of manpower and financial resources, but over the long term, money in sustainability of the risk of a lot of distance straw economic efficiency maximization, also has a long way to go. If in the straw from the field link, need to put a large number of agricultural machinery harvest, transport, baling, pressing block, etc. For comprehensive utilization, industries and projects need to be built and supported. However, after many enterprises put into production, they lack corresponding funds and policy support for subsequent development, which leads to bottlenecks and obstacles in development. Such as Hailin green biomass of source co., LTD., the company designs, production capacity of 35000 tons, construction, after the first issue in 2018 only consumes 6500 tons of straw, the second phase is preparing for construction, but because of lack of money, Banks are reluctant to provide loans to support, only by the individual investment is insufficient funds, projects in the suspended state, target capacity cannot be achieved on time.

The Majority of Farmers do not Understand, Grass-roots Cadres Suffer. Faced with the strictest burning ban in the history of Heilongjiang province, many local governments regard the straw burning ban as a serious political task, and do not combine with the actual situation at the grass-roots level in towns and villages, so the measures are not operable and practical. The transmission of pressure leads to the obvious increase in the work intensity of grassroots cadres. Some township cadres reflect that only straw from the field a work, will consume a township cadres 70% of the energy, and township work and fire prevention, flood control, agriculture and other complex content, sometimes feel powerless. To treat straw from the field at the same time, some farmers work also don't understand, think that the work habits change for many years, has affected the next year's crop, the cadre populace's emotional open this year have increased after the "window period", from the original comprehensive prohibition to the "window period" open, make people lose the recognition of the government authority, push to take off and psychological resistance have been strengthened. Chai Zhigang, deputy mayor of Ningan city, reflects that the previous government ban on burning work is very strong, clearly stated that firmly cannot burn straw, in the first window period after the opening, the policy changes, people feel "their words do not keep, afraid to go out, afraid of people swear".

Opinions and Suggestions

Take a Long-term View and Expand the Sources of Funds. The previous straw prohibition work, the local finance has been a large number of investment funds, this situation is not sustainable. Protect the environment, protect the blue sky white cloud is all mankind, the national common battle, is the most important thing for the welfare of future generations, on the source of funds, internally to actively push for the state financial support, more fully benefit from provincial, city, region, especially in developed areas to all aspects of the support provided to the prohibition of areas and foreign should actively strive for international environmental protection organization, the United Nations support from environmental groups, broaden the sources and channels, not only cannot let stalk burning the seat of local government and the people under pressure, but also lighter and can even benefit.

Policy First, to Straw New Energy Projects to Give Strong Support. Governments and departments at all levels should be fully prepared to timely issue relevant documents and standards, determine the direction of support and subsidy standards, and strengthen policy support in all links of straw burning prohibition, returning straw to the field and comprehensive utilization. We revised and adjusted the reward and punishment mechanism for the prohibition of open burning of straw in Heilongjiang province, and encouraged local governments to formulate their own reward and punishment systems in light of their own conditions, so as to ensure clear rewards and punishments. Of straw recycle project examination and approval, and policy subsidy appropriate tilt, coordination of financial institutions at the same time, we will increase support for new energy enterprises, center, case by case, to provide loans to the green channel, especially to encourage straw problems areas, actively attract foreign investment and individual factory, smooth straw way, further stimulating the enthusiasm of the market and social forces to participate in. Relevant policies should be introduced early and remain stable. Early, is the policy before the event, not after the event. Stability means that we stick to consistent policies, and we must not vacillate from one policy to another. For example, on the issue of "window period", the top-level design should be done consistently. Make it clear whether there is a "window period" for opening up. If there is no window period, all policies, funds, manpower and other aspects should be matched in place to strictly implement the no-burn policy. If there is a "window period", first, the opening time should be stipulated and announced so that the majority of cadres and farmers can know about it and make preparations in advance. Second, the opening time of the "window period" should be arranged according to local conditions, climate and planting conditions. Third, we need to improve the legal system, ensure the smooth progress of fire control work in accordance with the law, and deal with violators in accordance with the law.

Strengthen Coordination and Enhance the Integration of Science and Technology. Guided by the government, it actively promotes the whole social forces and scientific research institutes to participate in the work of straw management, strengthens the research and development of comprehensive utilization of straw, increases the investment in scientific research, strongly supports scientific research institutions and enterprises to carry out research and innovation of straw utilization technology, and provides technical support for the comprehensive utilization of straw. By relying on science and technology combined with uav patrol, satellite scanning, the use of telecommunications, mobile network signal tower installation, such as hd camera stereo monitoring implementation, pay attention to the participation of people, to establish data sharing platform, all the upload data, an omni-directional no dead Angle search mode, make the stalk burning technology, convenient work inspect way. At present, some areas of Harbin and Suihua in Heilongjiang province have installed hd monitoring equipment with mobile network signal towers, which not only saves human resources, but also realizes 100% full coverage of the monitoring network 24 hours a day, which is worthy of promotion and reference.

Implement the "Four Have" Standard, Guide the Straw Work to Carry out in an All-round Way. Improving the conversion ability and economic benefit is the fundamental solution to eliminate straw burning in the open air. Governments at all levels should encourage and dig deep into local existing resources, give active encouragement to various production and business entities

engaged in the comprehensive utilization of straw in various forms, and guide the forces from all walks of life to participate widely. At the same time in order to in accordance with the "corporate earnings, the masses have economic, environmental improvement, work efficiency" as the working standard, make comprehensive utilization of straw into economic benefits, make the enterprise and the masses get tangible economic benefits, make the ecological environment has improved, thereby promote the straw comprehensive prohibition works carried out smoothly, let the whole society to feel straw changes in the work.

According to Local Conditions, from the Straw "Five" to Find a Solution. Improving the conversion ability is a good way to eliminate straw burning in the open air. The straw can be directly returned to the field, quickly decomposed to the field, compost returned to the field or straw biological reactor technology. Feed, silage, microstorage, knead and press yellow storage and other feedstuff directly by large cattle and sheep breeding enterprises; Straw for power generation, biogas, gasification, solidification molding and carbon and rural living fuel energy; Can be used in building materials, chemical industry, grass weaving, papermaking and other industries raw materials; Straw is rich in sugar, protein, amino acids, minerals, vitamins and other nutrients necessary for edible fungi. It can be used as the base material for seedling, flowers and trees, lawn and so on. In the use of straw exports, all areas should be adapted to local conditions, starting from feed, fertilizer energy, priority composting, pressure block, raw materials, the base material, and then collected with the boiler direct combustion, finally return to the field.

Acknowledgements

Philosophy and Social Science Planning Project in Heilongjiang Province

Study on the height of China-Mongolia-Russia cooperation in the Belt and Road Strategy
18JLH784

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