

Tibet Hulless Barley

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1. Introduction

Barley is the world's oldest grain. It has been cultivated for about 8,000 years. In Western countries, only small quantities of barley are utilized for human food. Barley is used in malting and feed industry. Australia, Canada, the European Union, U.S.A are main nations to produce barley.

Barleys can cover a hull or hulless. Most barleys have hull and used in malting. Tibet barleys are hulless

and used for food consumption. Tibet barleys have following characteristics:

- (1): Tibet hulless barley has been cultivated at least 3,500 years.
- (2): it is the main crop in higher altitude (sea level 4,200 ~ 4,500 m).
It is a staple food for Tibet people.
- (3): the low temperature-proof capability of Tibet hulless barley is high. It is no harm for seedling at $-3 \sim -4^{\circ}\text{C}$
- (4): it only has 110125days from seeding to harvest.

Hulless barley grew on nearly 130,000 hectare in Tibet. This is about 58% cultivated land. The total yield is 600,000 metric Ton. Traditional Tibet hulless barley is made into tsampa (roasted barley flour) and wine. Now it is made into barley flakes, flours, noodles et al. Tibet Beer Company in Lasa now makes beer by using hulless barley.

2. Beta-glucan in hulless barley

The great value of hulless barley is its major component beta-glucan. The role of beta-glucan has been proved to enhance the immune function and to lower blood cholesterol. Some experts think that one reason for low diabetes for Tibet people is the food hulless barley they consume. The beta-glucan in hulless barley is a mixture of beta-1,3-glucan and beta-1,4-glucan. The average of beta-glucan in Tibet hulless barley is about 5.25%. TQ 25 Tibet hulless barley has 8.62% beta-glucan, the highest in hulless barley. The beta-glucan can be extracted from oats and hulless barley. However the yield of hulless barley per hectare is two times higher than the yield of oat. Hulless barley has more beta-glucan than oat. The project "extracting of beta-glucan from hulless barley" has been finished in pilot lab. The factory is being set up for production of beta-glucan in Lasa.

3. Tibet hulless barleys component and nutrition analysis and comparison

Hulless barleys from different areas of Tibet were being analyzed for nutrition and safety. The results will be shown in seminar.

Our work on hulless barley is just begun. More works are needed to be carried out to explore the potential of hulless barley as food, especially its health role.