

Breeding of a silage maize cultivar, "Ohzora", with high yielding ability and lodging resistance

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Summary

A new silage maize cultivar, "Ohzora", was developed and registered as "Maize Norin Kou 56" by the Japanese Ministry of Agriculture, Forestry and Fisheries in 2002.

Ohzora is a single cross hybrid between a dent inbred line, Ho57, as seed parent and a flint inbred line, Ho47, as pollen parent. Ohzora is classified into the medium maturity group and adaptable to central and southern area of Hokkaido. The silking date is a day later than Pioneer 3790 and the same as that of Pioneer 3845. Whole-plant dry matter content of Ohzora is almost the same as that of Pioneer 3790. The average yield of Ohzora is 6% higher than that of Pioneer 3790 and 3% higher than that of Pioneer 3845 for whole-plant dry matter and 4% higher than that of Pioneer 3790 and 3% higher than that of Pioneer 3845 for estimated total digestible nutrients(TDN). The average dry matter ear content of Ohzora is 51%, 2.0 - 2.5% lower than those of Pioneer 3790 and Pioneer 3845. The whole-plant digestibility is almost the same as that of Pioneer 3790. Ohzora has a high level of lodging resistance, with lower percentage of lodged plants than those of Pioneer 3790 and Pioneer 3845. Ohzora shows a moderate level of resistance to northern corn leaf blight

(*Setosphaeria turcica*) and southern corn leaf blight (*Cochliobolus heterostrophus*). Its level of resistance to northern corn leaf blight is lower than those of Pioneer 3790 and Pioneer 3845 and higher than that of Kitayutaka. Its resistance to southern corn leaf blight is as high as that of Pioneer 3845 and lower than that of Pioneer 3790. Ohzora shows resistance to common smut (*Ustilago maydis*) and streaked dwarf(RBsDV). Although the lower leaf death rate of Ohzora is greater than that of Pioneer 3790 after the mid-dent stage, decrease in yield and the stover digestibility is not observed between the mid-dent stage and about 10 days after this stage. Suitable planting density of Ohzora is 680 - 800 plants per are, and the adaptability of Ohzora to higher planting density is better than that of Pioneer 3790 or 3845.

Key words: maize, silage, hybrid, lodging resistance, yield, Hokkaido

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写真1 「おおぞら」の草姿
(撮影：2001年9月22日，北海道農業研究センター)



写真2 「おおぞら」の雌穂および粒
(撮影：2001年11月7日，北海道農業研究センター)