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サイレージ用トウモロコシの新品種「ゆめちから」の育成とその特性

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Development and Characteristics of New Silage Maize Cultivar "Yumechikara"

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Summary

A new forage maize cultivar, "Yumechikara", was developed at the National Agricultural Research Center for Kyushu Okinawa Region (formerly, Kyushu National Agricultural Research Station). Yumechikara was registered as "Nourin Kou No. 50 of Maize" by the Ministry of Agriculture, Forestry and Fisheries of Japan in 2000. Yumechikara is a single-cross hybrid between the dent inbred line "Mi29" as seed parent and the flint inbred line "Mi47" as pollen parent.

Yumechikara belongs to the early-maturity group and reaches the silking stage one day earlier than "DK623" and two days earlier than "Cecilia". The stalk of Yumechikara is shorter than that of DK623 and Cecilia. The ear height of Yumechikara is higher than that of DK623 and lower than that of Cecilia. This cultivar demonstrates the highest level of lodging resistance; the lodging resistance of Yumechikara is significantly greater than that of DK623 or Cecilia. Yumechikara's resistance to southern leaf blight (*Bipolaris maydis*) is at the highest level, similar to that for DK623. Yumechikara's resistance to common rust (*Puccinia sorghi*) is significantly greater than that of DK623 or Cecilia.

Yumechikara exhibits good performance when planted before late May in Kyushu, Shikoku, and Chugoku districts. The dry matter yield of the whole-plant of Yumechikara is similar to that of DK623 and somewhat lower than that of Cecilia. The ear dry matter content in Yumechikara is slightly lower than that in Cecilia and somewhat similar to that in DK623. However, the total digestible nutrients (TDN) content in the stover of Yumechikara is five to seven percent greater than that of DK623 and Cecilia. The TDN content of whole-plant of Yumechikara is three to four percent greater than in DK623 or Cecilia due to the high stover digestibility. Thus, the TDN yield of an entire crop of Yumechikara is six percent (two percent) greater than that of DK623 (Cecilia).

The most substantial yield can be achieved at appropriate plant densities between 700 and 780 plants per *are*. Yumechikara is recommended to be grown in spring planting conditions in warm regions of Japan because of its susceptibility to southern corn rust.

Key Words: maize, silage, lodging resistance, total digestible nutrients (TDN), TDN content, stover digestibility, southern leaf blight, common rust, spring-planting.

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