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Water Management Options in Rice under Water Crisis Scenario

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Abstract

Among the surface irrigated crops in general and command areas in particular, rice is the dominant one in terms of percentage share of water used for irrigation to crops. Rice is the staple food for nearly half of the world's population, most of whom live in developing countries. More than 80 per cent of the developed freshwater resources in Asia are used for irrigation purposes and about half of the total irrigation water is used for rice production (Bhuiyan, 1992 and Dawe et al., 1998). Rice grown under traditional practices in medium- to heavy-textured soils in the Asian tropics and subtropics requires between 700 and 1,500 mm of water (Bhuiyan, 1992).Tuong and Bowman (2003) estimate that, by 2025, about 2 million ha of Asia's irrigated dry-season rice and 13 million ha of its irrigated wet-season rice will experience "physical water scarcity," and most of the 22 million ha of irrigated dry-season rice in South and Southeast Asia will suffer "economic water scarcity." Yet rice production has to be sustained with less water. To tackle this problem of severe water shortage for rice production, we have two options: water saving in rice culture and improving water use efficiency of rice. The gratifying news is that there is scope for water saving in rice cultivation as well as for improving yield with less water. The various options available to reduce the water requirement for rice are described in this paper.