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Productivity And Nutritional Potential Of Sweet Pepper Varieties In Bangladesh

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Abstract

An experiment was conducted at the central experimental farm of the Olericulture Division, HRC, BARI, Gazipur from October 2023 to April 2024 to evaluate four sweet pepper lines against the check variety BARI Mistimorich-2. The line CA 0043A showed the earliest harvestability (64.05 days), while CA 0046 produced the highest number of fruits/plant (9.43) and largest average fruit weight (106.32g). Yield performance ranged from 24.21 to 29.07 t/ha, with CA 0043A demonstrating superior productivity (29.07 t/ha). The selected line CA 0043A, characterized by red bell-shaped fruits, showed minimal pest infestation under protected cultivation and has been recommended for release as BARI Mistimorich-3. This development holds particular significance for Bangladesh's nutritional security, as sweet peppers are rich sources of vitamin C (ascorbic acid), vitamin A precursors (β -carotene), and antioxidants - critical nutrients for combating widespread micronutrient deficiencies. The high-yielding CA 0043A line presents opportunities to enhance year-round availability of nutrient-dense vegetables, particularly important for vulnerable populations. Its early maturity and protected cultivation compatibility address both productivity challenges and pesticide residue concerns. The release of this improved variety aligns with national efforts to diversify vegetable production and improve dietary quality, contributing directly to SDG targets on food security and nutrition. Further nutritional profiling of this line should be conducted to quantify its specific contributions to addressing vitamin deficiencies prevalent in Bangladesh.

