Review: Crop adaptation through post-domestication introgression from the wild

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The traditional paradigm in crop domestication studies has been origin from one or more defined geographic centers followed by dispersal and expansion to the modern-day extent of cultivation. Absent from this paradigm are the genetic effects of hybridization between diffusing domesticates and closely-related, locally-adapted wild relatives outside the center of origin. New methods have recently been employed to detect genome-wide patterns of introgression in a number of species. In this review, we will: 1) briefly describe these methods and provide a summary of their recent application for detection of crop-wild introgression, 2) review evidence supporting the hypothesis that introgression has conferred local adaptation to crops, 3) consider how the prevalence of post-domestication introgression alters traditional concepts of domestication, and 4) describe future advances in basic and applied genetics that can be made through the study of crop-wild introgression.

Introgression methods and recent applications

The role of introgression in conferring local adaptation in crops

The domestication process in light of introgression

Future studies in crop-wild introgression

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References

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