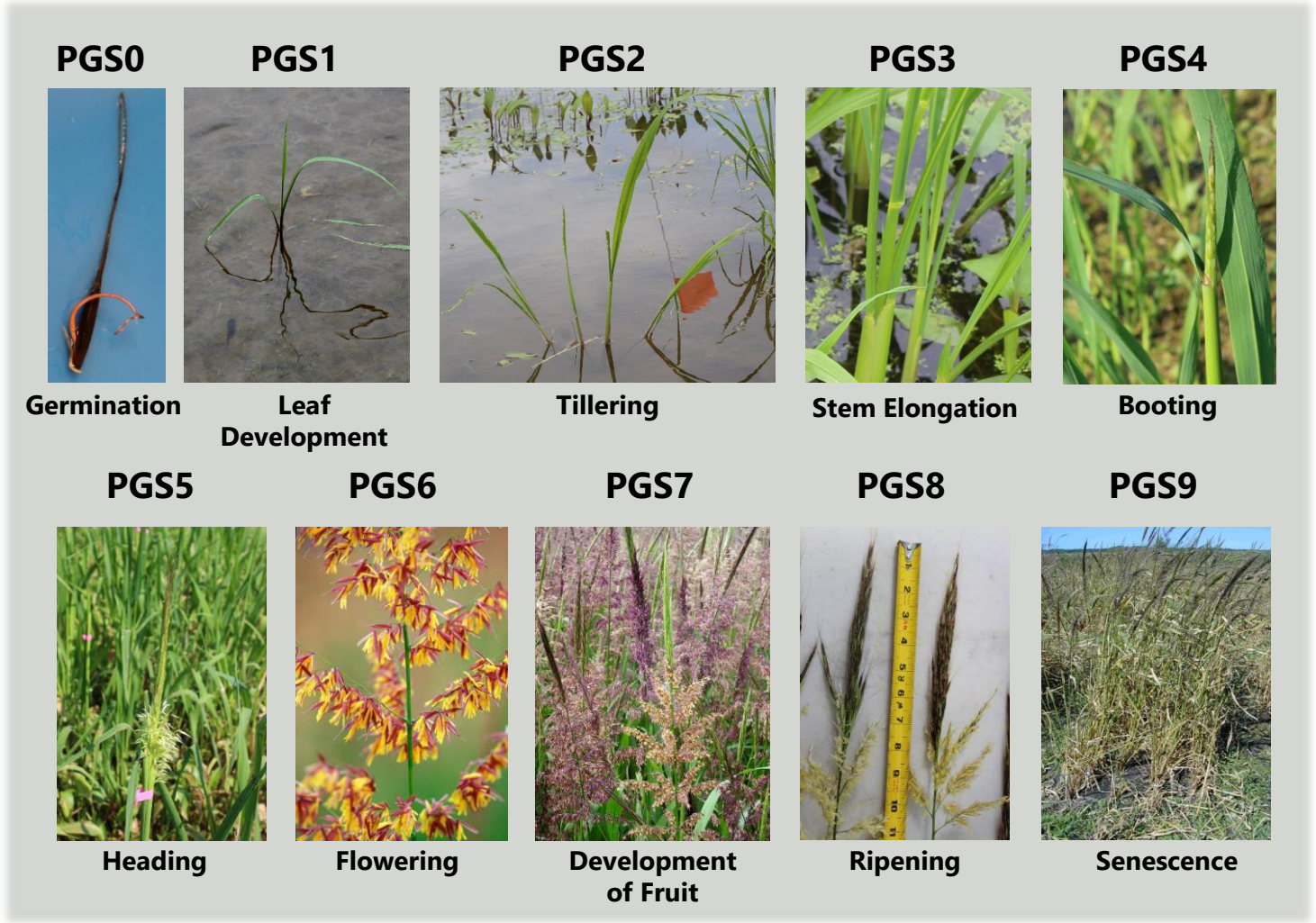




A Phenological Growth Scale for Northern Wild Rice

- ✦ The phenology of a species, which consists of biological events such as germination, flowering, and fruit development, is largely dependent on seasonal changes, unique microclimates, and latitude.
- ✦ A BBCH scale describes the growth stages of a plant throughout its life cycle. In this type of scale there are 10 principal growth stages (PGS).



Principal Growth Stage (PPS)	Period											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
PPS 0: Germination												
PPS 1: Leaf Development												
PPS 2: Formation of Tillering												
PPS 3: Stem Elongation												
PPS 4: Booting												
PPS 5: Heading												
PPS 6: Flowering												
PPS 7: Development of Fruit												
PPS 8: Ripening												
PPS 9: Senescence												

Representation of chronological progression of northern wild rice principal phenological stages when spring-planted in Northern Minnesota.

- ✦ This coding system standardizes phenological information for growers and researchers.
- ✦ It can improve the accuracy of management activities, especially the timing of these practices, and inform crop adaptability to different environments, which in turn can aid in development of breeding programs.

References:

Duquette, J. and Kimball, J.A. 2020. Phenological Stages of Cultivated Northern Wild Rice According to the BBCH Scale. *Ann Appl Biol*. Accepted Author Manuscript. doi:10.1111/aab.12588

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