

Yellow Berry

Yellow berry refers to the non-vitreous nature of the wheat kernel. Individual kernels may be vitreous, non-vitreous (yellow berry) or have varying proportions of each (“mottled”). Yellow berry in and of itself represents no defect of the kernel. As in maize, rice and other cereals, the non-vitreous appearance results from the diffraction of light by minute air spaces and discontinuities in the endosperm. This physical discontinuity of the kernel is highly correlated with protein content; and it is for this reason that there is commercial interest in the trait. In the U.S., the federal standards for wheat differentiate Durum wheat and Hard Red Spring wheat into three subclasses, each based on the percentage of vitreous kernels. Although varieties do differ somewhat in their predisposition to yellow berry, the over-riding cause relates to N fertility and, secondarily, biotic and abiotic stresses on the wheat plant. In general, N applied or available during later grain filling, and yield-reducing stresses (drought, high temperatures) reduce the incidence of yellow berry.

Selected References

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