

## #8225: Jumbo Bean: Hard Seed



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## BEANS (*Phaseolus vulgaris*) #11G Jumbo Flat Pod Bush Bean

Jumbo tends to have a higher-than-average percentage of hard seeds than most bean varieties. Some lots have higher percentages of hard seeds than others. This is clearly indicated on the package label. Because of this, we recommend seeding at a rate of 12 seeds per foot, rather than the standard 8 seeds per foot.

**HARD SEED:** Jumbo's tendency to have hard seed is a form of physical dormancy. Hard seeds are alive, but they do not germinate as quickly because the seed coats are less permeable to water. This is a natural survival mechanism that ensures some seeds will germinate immediately and others will germinate later under different environmental conditions. In horticultural crops, this trait is typically bred out of the crop. In the case of Jumbo, however, this trait is occasionally expressed.

At Johnny's we perform germination tests on each seed lot to ensure that the total viability meets Johnny's high-quality standards.

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