

YUKON GEM

AGRONOMY NOTES

Yukon Gem – (NDA5507-3Y)

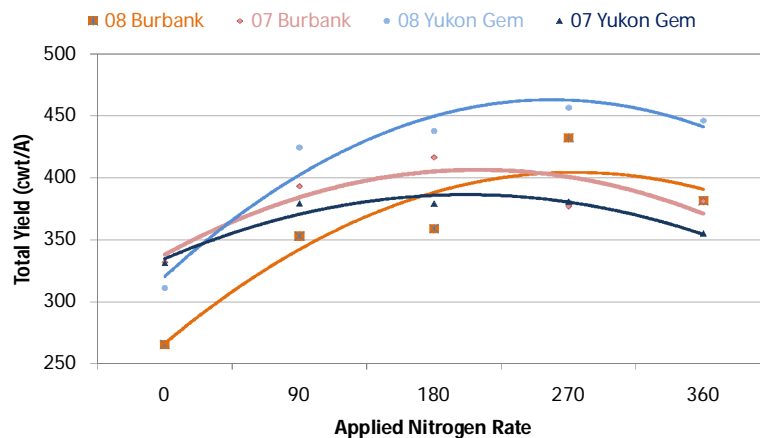
Yukon Gem is an attractive round yellow tuber with pink splash around the eyes and light yellow flesh. It is a mid-season maturing variety. Yukon Gem produces a higher yield potential than Yukon Gold (its paternal parent). Merit rating for fresh pack characteristics including postharvest evaluations for boiling, baking, and microwave qualities were comparable to Yukon Gold. Tubers of Yukon Gem exhibit good chip color, but its lower specific gravity may limit its use for this purpose. Yukon Gem has a moderately low specific gravity and good resistance to tuber malformation and most internal and external defects; its tubers exhibit little or no after-cooking darkening. Yukon Gem is resistant to PVY^o and more resistant to scab than Yukon Gold. Yukon Gem has a low to medium tuber set, with optimal size profile.

Fertilization

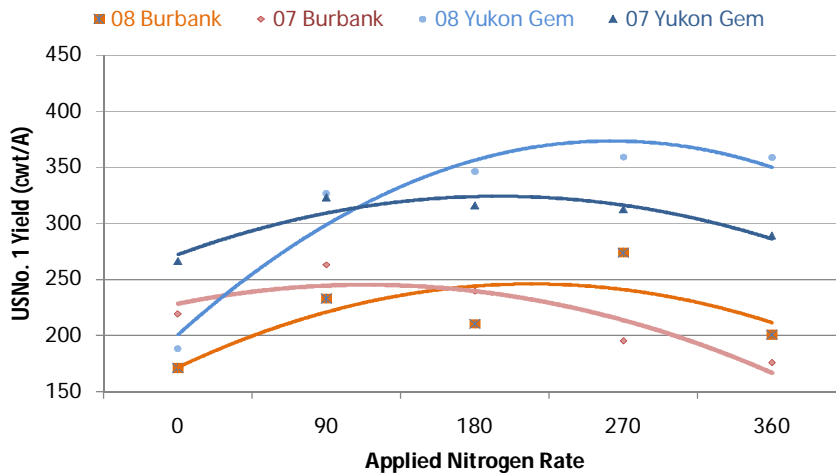
The following graphs present N response data from 2007 and 2008 for Yukon Gem in comparison with Russet Burbank grown on a Declo sandy loam soil at the University of Idaho Aberdeen Research and Extension Center. Trials were grown following grain in the rotation. Row spacing was 36" and in-row spacing was 10.6". Crops were irrigated to maintain available soil moisture above 65%. University of Idaho recommendations were followed for herbicide, pesticide, and fungicide applications.

Nitrogen response studies were conducted using five application rates (0, 90, 180, 270, 360 lb N/acre) with half of total N applied pre-plant with the remainder divided into three equal applications at 2 week intervals starting at tuber initiation. Pre-plant available soil nitrate concentrations were 20 lb N/acre in 2007 and 30 lb N/acre in 2008.

2007-2008 Total Yield Response to N Rate of Yukon Gem vs. R Burbank



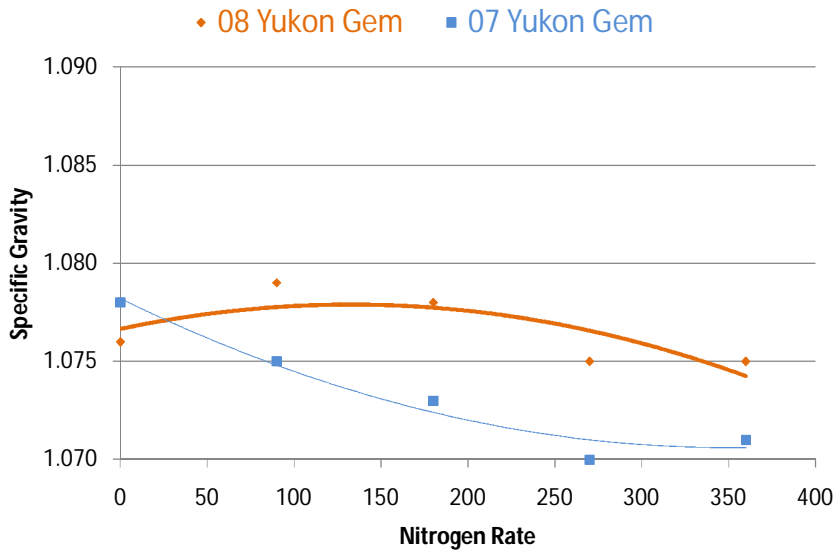
2007-2008 USNo.1 Yield Response to N Rate for Yukon Gem vs. R Burbank



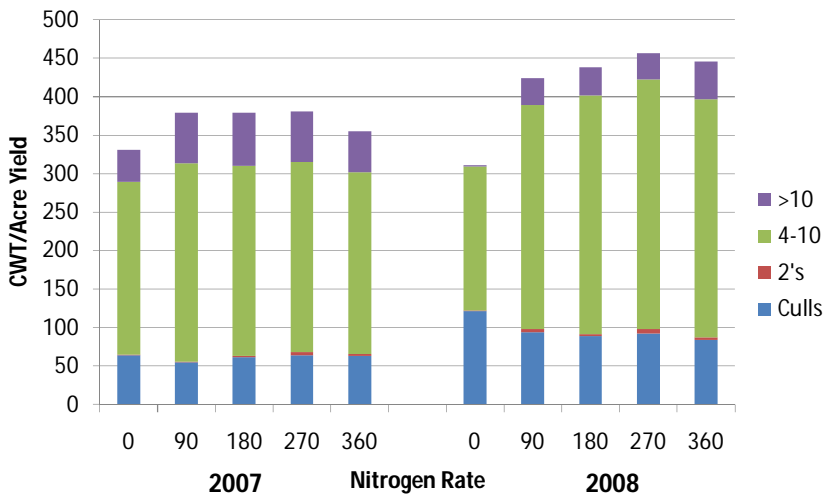
Total and USNo.1 Yield response to Nitrogen application indicate that N requirements for Yukon Gem are about 85-90% of Russet Burbank per cwt of yield produced. Typically, 1/2 of the seasonal N requirement should be applied by row closure, with subsequent in-season applications being based on petiole nitrate concentrations. For southern Idaho, total soil plus fertilizer N recommendations range from about 210 lb N/acre in areas with a 400 cwt/acre yield potential to 240 lb N/acre in areas with a 500 cwt/acre yield potential. Nitrogen uptake decreases significantly after August 1 so N applications should not be made after that time. Excessive nitrogen can lower yield and quality and prolong maturation. Higher nitrogen levels can lower specific gravity.

Yukon Gem has moderately low Specific Gravity levels. Response to N indicates a decline in gravity with higher nitrogen levels.

2007-2008 Specific Gravity Response to N Rate



2007-2008 Size Distribution Yukon Gem

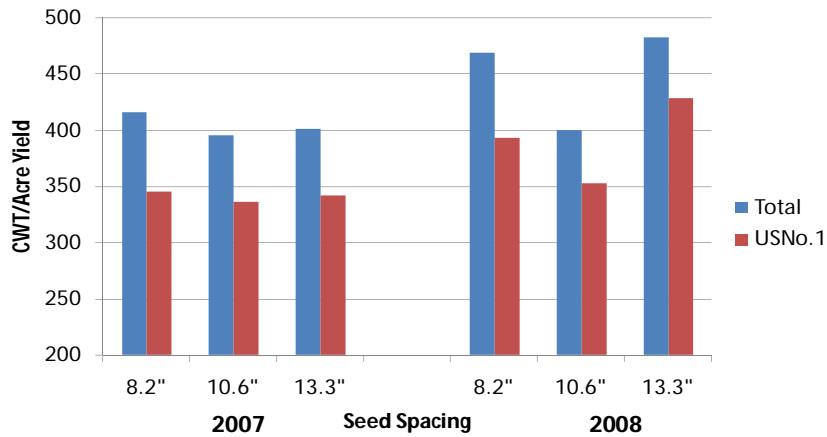


Yukon Gem produces optimal sized tubers regardless of Nitrogen rate.

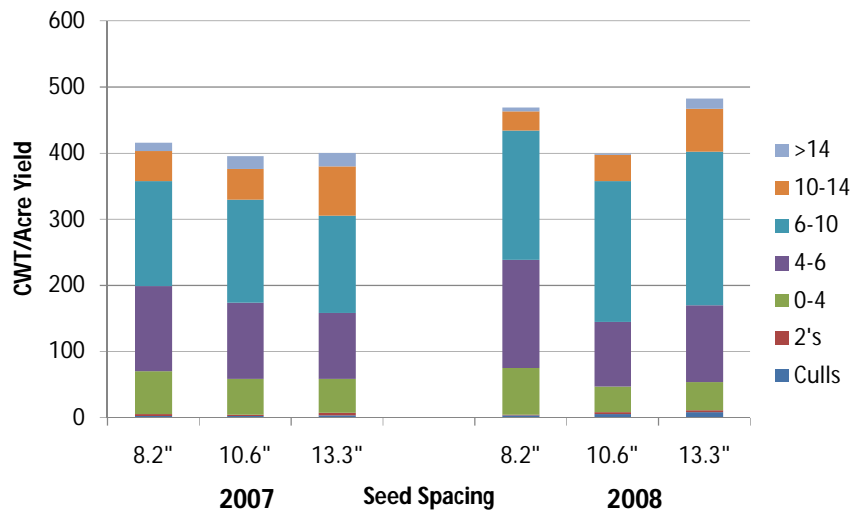
Yukon Gem - Spacing

The following graphs combine 2007 and 2008 data for Yukon Gem soils at the University of Idaho Aberdeen Research and Extension Center. Row spacing was 36" and in-row spacing was 8.2", 10.6", 13.3".

2007-2008 Total & USNo.1 Yield Yukon Gem – Seed Spacing



2007-2008 Size Distribution Yukon Gem – Seed Spacing



Total and U.S.No.1 Yield of Yukon Gem is optimized at the 8-10" in-row spacing. Smaller tuber size is desired for fresh market yellow fleshed tuber types.

Revised March 16, 2010