WEIGHT LOSS IN STORAGE DUE TO PHYSICAL DAMAGE SUSTAINED AT HARVEST

BRUISE MANAGEMENT AT HARVEST CAN **IMPACT** HOW MUCH WEIGHT POTATOES LOSE IN STORAGE.

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INTRODUCTION

Effort is made to minimize physical impact at harvest. Shatter bruises can cause entry points for pathogen invasion and potential disease development in storage. These bruises are also susceptible to greater evaporative water loss leading to additional shrinkage in storage. Wound healing conditions in storage help heal the wounds to minimize loss, but healing occurs over multiple days.

The question is how much loss do you see in storage due to harvest impact damage?

OBJECTIVE

To examine how physical damage at harvest affects weight loss in storage.

METHODOLOGY

This trial was conducted over 2 years and examined 3 cultivars:

- Russet Burbank
- Clearwater Russet
- Russet Norkotah

Potatoes were impacted with a 3.5 oz. aluminum weight 0 or 4 times at harvest to provide varying levels of shatter bruises.

Potatoes were cured at 55°F for 2 weeks and then ramped down at 0.5°F/day until a holding temperature of 45°F. Stored for 8 months and evaluated monthly for percent weight loss. Statistics show significant differences at p = 0.05.

RESULTS

Weight loss averaged over treatment and months:

Russet Norkotah = 4.0% a
Russet Burbank = 4.8% b
Clearwater Russet = 6.2% c

Weight loss averaged over cultivars and months:

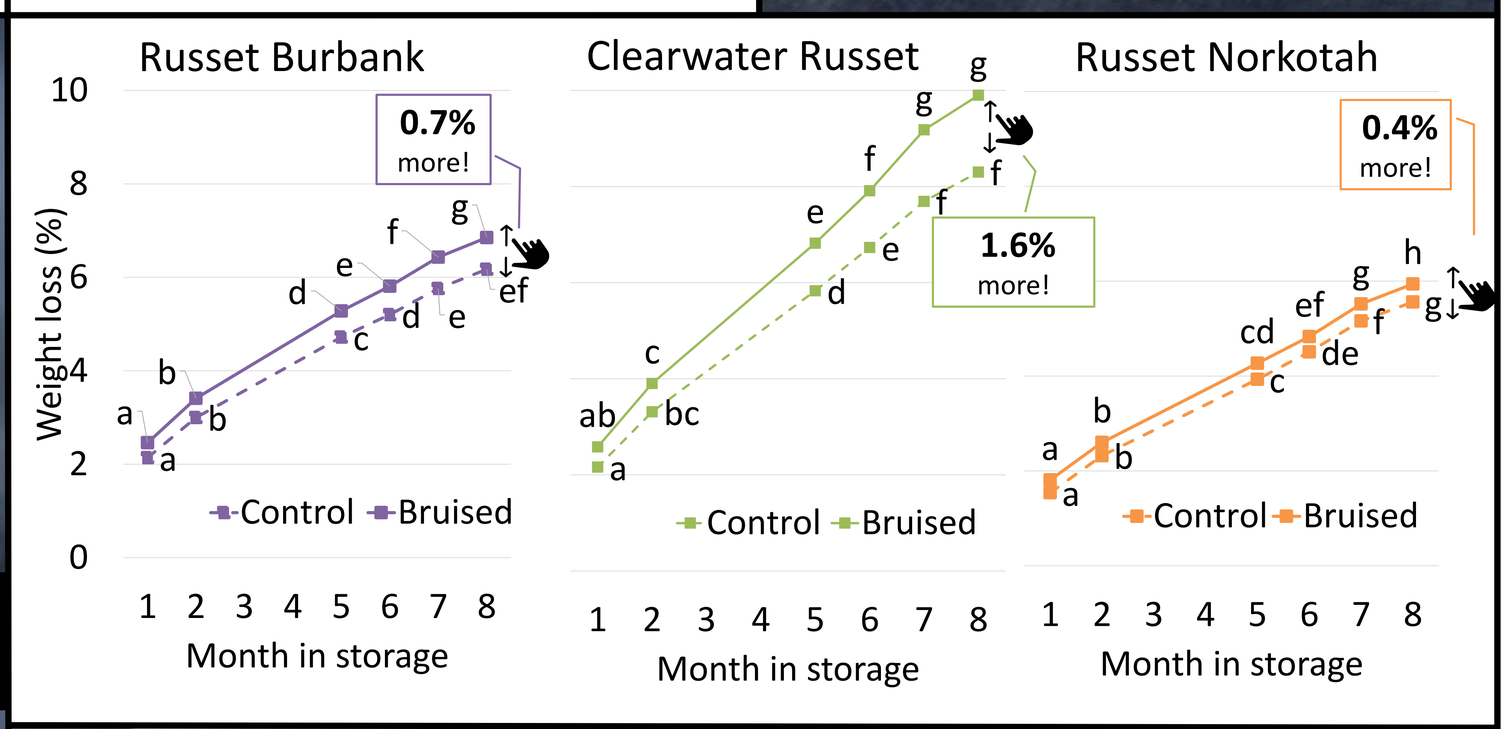
- Control = 4.7% a
- Bruised= 5.3% b

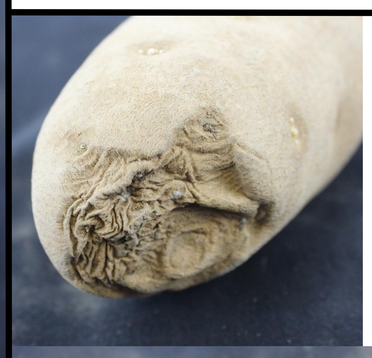
The most weight was lost in the first month for each cultivar:

- Russet Norkotah = 1.8%
- Russet Burbank = 2.3%
- Clearwater Russet = 2.4%

Clearwater Russet dehydration observed at the end of the storage period. Clearwater lost more weight compared to Russet Burbank and Russet Norkotah.

Shatter bruises create entry points for pathogens and contribute to evaporative loss and shrinkage.

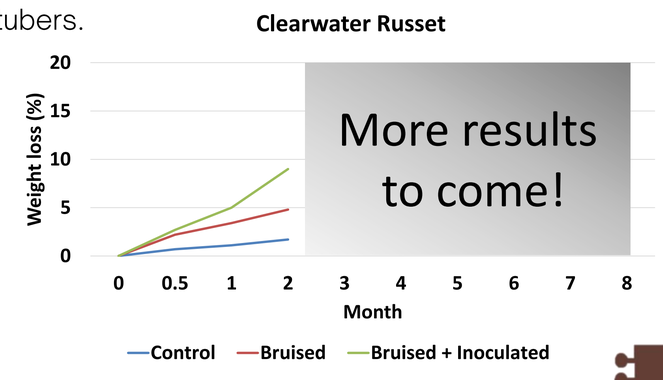




AT THE END OF THE EVALUATIONS, WE OFTEN SAW FUSARIUM DRY ROT…

NEXT STEPS

Currently in storage, potatoes were bruised and inoculated with *Fusarium sambucinum* to determine the impact dry rot decay can have on weight loss in storage. Preliminary results show higher weight loss with both bruised and bruised and inoculated tubers.



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If potatoes were bruised, they lost 0.9% more weight by the *end of the storage season*. This is another reason to minimize impact damages at harvest.

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