

Defender

- **Resistant to Late Blight**
- **High Yield and Specific Gravity**
- **Bulks Rapidly**
- **High Vitamin C**
- **Excellent for Organic Production**
- **Ranger Russet x KSA195-90**

POTATO VARIETY
MANAGEMENT
INSTITUTE

PVMI

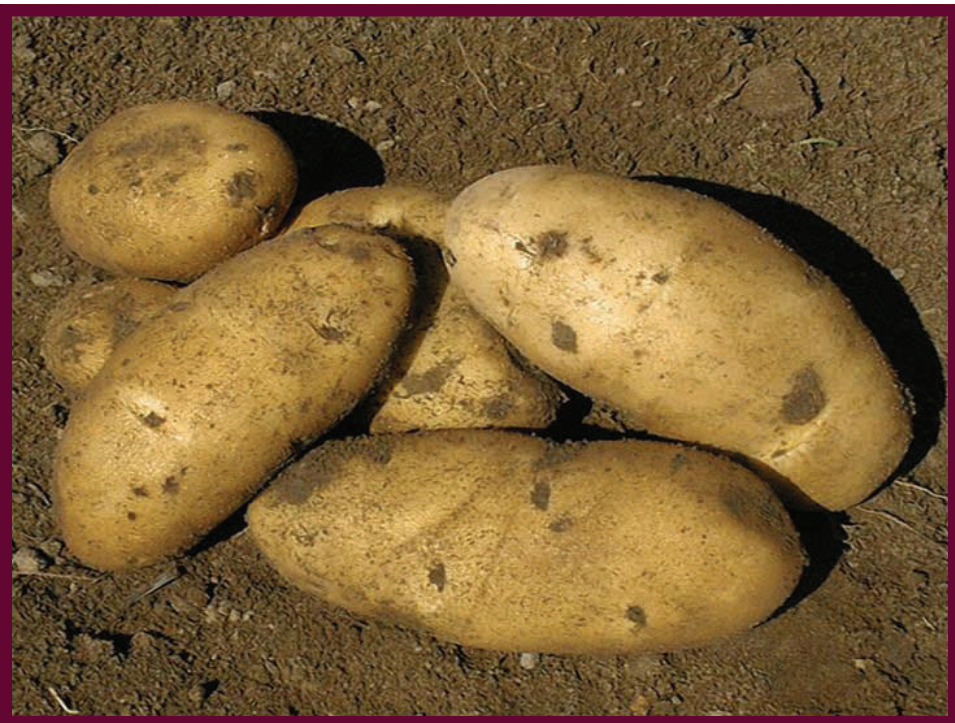
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Released in 2004, *Defender* is high yielding, lightly russeted, and most notable for having foliar and tuber resistance to late blight infection. *Defender* is suitable for processing into french fries and other frozen potato products directly from the field or from short term storage. *Defender* is very high yielding and may also be used for fresh markets.

Its resistance to late blight and other potato diseases make it an excellent candidate for organic production. It consistently produced greater total and US No. 1 yields than Russet Burbank. The specific gravity is consistently high, with values comparable to Ranger Russet and tuber Vitamin C levels are also high, with concentrations 69% greater than Russet Burbank.

In addition to late blight, *Defender* is also resistant to tuber early blight, PVX, and net necrosis. It has moderate levels of resistance to *Verticillium* wilt, pink rot, foliar early blight, corky ringspot and soft rot. *Defender* is susceptible to scab (common and powdery) and potato leafroll virus. It has moderate susceptibility to dry rot and PVY.

Weaknesses include a relatively short tuber dormancy and susceptibility to common scab, blackspot bruise, and tuber greening. A release article for Defender was published in the American Journal of Potato Research in 2006, volume 83, p. 9-18.

DISEASE

Verticillium	mod resistant
Common Scab	susceptible
Powdery Scab	susceptible
PVY	mod susceptible
PVX	VERY resistant
Net Necrosis	resistant
Late Blight Foliar	resistant
Late Blight Tuber	VERY resistant
Tuber Early Blight	resistant
Pink Rot	mod resistance
Dry Rot	mod susceptible
Soft Rot	mod resistant
Corky Ringspot	mod resistance

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Management:

Planting:

Optimal plant spacing in 36-inch wide rows in southeast Idaho is 10 - 12 inches, at a depth of 5 - 7 inches with 2 - 3 inches of soil applied at final hilling to minimize tuber greening.

Fertility:

The nitrogen requirements for Defender are about 190 - 210 lb N/acre, 80 - 90% of Russet Burbank in replicated field trials in SE Idaho. One-third to one-half of the seasonal N requirement should be applied at or near planting with the remainder applied before August 10 to avoid delaying tuber maturation.

Irrigation:

Soil moisture should be maintained between 65-80% ASM throughout the growing season to avoid drought stress. Vines of Defender remain green and vigorous late in the season and use 10-20% more water than Russet Burbank. Avoid excessive soil drying prior to vine kill to minimize tuber dehydration and blackspot bruise.

Storage:

- Shorter dormancy potato - 95 days at 48°F and 125 days at 42°F
- Cure at 55°F, then ramp to storage temp 48°F - frozen processing
- Mottling - mild/moderate
- Dry rot - moderately resistant

Weaknesses:

- Black spot bruise
- Tuber greening
- Common scab

Other Notes:

Defender is resistant to Metribuzin at normal application rates.

The information contained within this flyer was supplied by researchers of the Northwest Potato Variety Development Program and their collaborators.



Defender showing late blight resistance at OSU, Corvallis trials September, 2007.