

POTATO VARIETIES FOR TABLE, CHIP and ORGANIC PRODUCTION

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The Cornell potato breeding program, under the leadership of Dr. Walter De Jong and formerly that of Dr. Robert Plaisted, has released several new varieties and numbered clones that show very good promise for tablestock and/or chipping markets for the Northeast. Performance information presented here was collected from trials grown by University, Extension and grower cooperators in New York State.

Adirondack Blue: An early to mid-season specialty tablestock variety. Tubers are oblong in shape with a dark purple-blue skin and purple flesh. It has excellent boiling scores and retains its color and remains firm when boiled. Susceptible to common scab.
(marketable yield = 206 cwt/acre in 8 trials over 6 years, specific gravity = 1.073)

Adirondack Red: A specialty tablestock variety. Tubers are long with a reddish-purple skin and red flesh. Susceptible to silver scurf and scab response similar to Atlantic.
(marketable yield = 216 cwt/acre in 16 trials over 9 years, specific gravity = 1.067)

Andover (NYE55-44): Early vine maturity similar to Superior. It has very rapid emergence and early tuber set, so is suitable for **early to midseason tablestock and chipstock utilization**. Tubers are slightly oblong in shape with a buff colored, flaky textured skin. Dormancy is about two weeks longer than Atlantic. Tubers are large and are relatively free of internal defects. Under stress leaves display necrotic areas similar to early blight, but these symptoms are probably caused by physiological factors such as air pollution or heat/drought stress. Adequate soil moisture is key to manage this problem and irrigation should be applied well before plants reach the wilting point. Andover has resistance to scab and the golden nematode. Andover chips very well from the field or from short or long term storage (45F) and is sought after by chip processors for chipping out of early storage.
(marketable yield = 279 cwt/acre in 63 trials over 23 years, specific gravity = 1.083)

Eva (NY103): A midseason tablestock entry with **very attractive tubers and a very bright white, smooth skin with shallow eyes**. Tubers are uniform with a round to oval shape. There are very few external defects but on occasion a few incidences of hollow heart and soft rot have been observed. Scab resistance is similar to Monona. It is resistant to the golden nematode, PVX and PVY. Tuber dormancy is very long, almost seven weeks longer than Atlantic or Katahdin. Chip color can be variable, plus the lower gravity level, indicate some concern for use in processing. Eva produces a very attractive, bright white tuber on muck and sandy soils.
(marketable yield = 307 cwt/acre in 56 trials over 19 years, specific gravity = 1.077)

Genesee (NY78): A late season tablestock variety with **very attractive tubers with a bright white skin**, shallow eyes and a smooth, round to oblong shape. Very few external and internal

defects. Resistance to Verticillium, early blight, scab and the golden nematode. Good baking and excellent boiling scores, but will not chip.

(marketable yield = 282 cwt/acre in 43 trials over 22 years, specific gravity = 1.071)

Kasoag Gold (NY125): This is a mid-season tablestock variety. Very attractive shape, with a scurfy skin texture and pale yellow flesh. Good boiling ratings. Medium vine size with white flowers. Resistant to golden nematode (Ro1) and fair resistance to scab.

(marketable yield = 329 cwt/acre in 17 trials over 9 years, specific gravity = 1.074)

Keuka Gold (NY101): This is a medium-late maturity tablestock clone with pale yellow skin and flesh. Tubers are large, very round, uniform in shape and have a flaky skin texture. **Very high yield potential.** External and internal defects are less than Atlantic, but internal heat necrosis has been seen on Long Island and in southern states. Resistant to scab and the golden nematode. Very good cooking and boiling scores but does not chip. The scurfy skin, internal necrosis and occasionally prominent lenticels may impact marketability from southern production areas but is a good fit for cooler northern areas.

(marketable yield = 388 cwt/acre in 55 trials over 20 years, specific gravity = 1.076)

King Harry (NY131): Bright white small to medium sized tubers for tablestock market. Because it possesses trichome-mediated resistance (hairy leaf surface) this variety has **performed well in organic yield trials.** In Dr. Ward Tingey's insect resistance trials where no insecticides have been applied, it has exhibited an average yield reduction of 20% compared to a 47% reduction for Atlantic in the same 7 trials. Maturity is early, similar to Superior. Few external or internal tuber defects. It does not chip. Very susceptible to common scab, similar to Chippewa. Resistant to race Ro1 of the golden nematode.

(marketable yield = 313 cwt/acre in 15 trials over 8 years, specific gravity = 1.079)

Lehigh (NY126): A mid-season tablestock variety. Has an attractive yellow flesh. Large tuber size with somewhat irregular shapes, a scally skin texture, but still attractive. Few external or internal defects. Specific gravity about 0.010 units below Atlantic. Chips better than a typical yellow-fleshed variety but not as well as the best white clones. Has good boiling scores, does not have after cooking darkening nor sloughing problems. **Excellent resistance to common scab,** similar to Pike. Resistant to race Ro1 of the golden nematode.

(marketable yield = 310 cwt/acre in 30 trials over 12 years, specific gravity = 1.080)

Marcy (NY112): **A late maturity chipstock** clone with excellent yield potential, averaging 122% of Atlantic's marketable yield in 59 upstate trials. Tubers are round, large and attractive but have a very scurfy skin texture. Usually has very few external or internal defects, however hollow heart and vascular discoloration are occasionally present. Although Marcy sets an above average tuber number per plant, it produces large tubers (averages over 6 oz.), so spacing narrower than 9 inches may be useful. Tuber dormancy is about the same as Snowden. Susceptible to blackspot bruising. May be moderately susceptible to the herbicides metribuzin and rimsulfuron. Large vines with white flowers. Marcy has resistance to the golden nematode and scab. Chip color scores close to Snowden from 40F storage.

(marketable yield = 384 cwt/acre from 59 trials over 16 years, specific gravity = 1.083)

Reba (NY87): A **dual purpose variety** with mid-season maturity similar to Atlantic or Monona. **Tubers are very attractive**, with a buff skin color which is very bright and smooth in texture, while shape is somewhat irregular and ranges from oval to oblong. This variety chips well from 45F storage and also is acceptable for tablestock as it does not slough during boiling and has little aftercooking darkening. Reba has fewer external and internal defects than Atlantic. Tuber size is larger than Atlantic and may have some hollow heart in the largest tubers, hence spacing narrower than average may be helpful. Scab resistance is intermediate and it is resistant to the golden nematode. Early season yields are similar to Superior and full season marketable yields averaged 106% of Atlantic in.

(marketable yield = 327 cwt/acre in 75 trials over 23 years, specific gravity = 1.076)

Salem (NY84): A midseason maturity tablestock variety. **Tubers are round, large, uniform, very attractive, with a bright white skin.** High yield potential while specific gravity is low, 0.022 units below Atlantic. **Very scab resistant** and also golden nematode resistant. Occasional vascular discoloration. Very good baking and good boiling scores.

(marketable yield = 338 cwt/acre in 43 trials over 23 years, specific gravity = 1.069)

The next three varieties are the most recent releases from the Cornell potato breeding program:

Red Maria (NY129): A late season red-skinned tablestock entry. Large, round, very uniform tuber shapes. Eyes are shallow and the skin is slightly textured. Few external or internal defects. **Very stable and high yield.** Had the highest yields in our organic trials at 299 cwt/acre marketable yield over 3 years. Good boiling and cooking scores. Excellent resistance to common scab, similar to Pike. Resistant to race Ro1 of the golden nematode.

(marketable yield = 376 cwt/acre in 25 trials over 10 years, specific gravity = 1.069)

Waneta (NY138): A late maturity chipper with large attractive tubers with a slightly textured skin. Few external or internal defects. Large tubers may have 5 to 10% hollow heart. Specific gravity averages 0.010 units below Atlantic. Moderate resistance to common scab. Chip color good directly from 44F or from 40F with reconditioning. Less susceptible to blackspot than Snowden. Tuber dormancy is six weeks longer than Atlantic. Resistant to race Ro1 of the golden nematode.

(marketable yield = 317 cwt/acre in 30 trials over 8 years, specific gravity = 1.080)

Lamoka (NY139): A medium-late maturity chipping line. Has a low percentage of external defects but has had some internal necrosis (varying from less or more than Atlantic depending upon the season). Very good specific gravity, averaging just 0.003 units less than Atlantic. Chip color good directly from 44F or from 40F with reconditioning. Good resistance to common scab. Tuber dormancy is one week longer than Atlantic. Resistant to race Ro1 of the golden nematode.

(marketable yield = 310 cwt/acre from 30 trials over 8 years, specific gravity = 1.087)

Note, one non-Cornell variety, **Chieftain** does very well in both conventional and organic trials. It is a red-skinned, white flesh tablestock variety with attractive smooth skin. Moderate scab resistance but is golden nematode susceptible.

(marketable yield = 331 cwt/acre in 53 trials over 22 years, specific gravity = 1.071)