LAMOKA *(NY139)*

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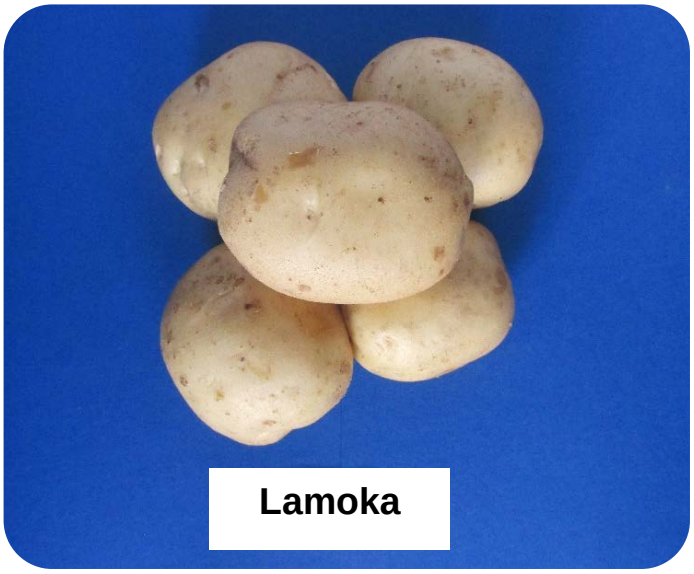

Parentage: NY115 X NY120

Breeder: Walter S. De Jong, Cornell University

- Primarily grown for chipping
- Attractive round shape, white to light beige tubers and a slight to moderately textured skin
- Eyes are of shallow to intermediate depth, evenly distributed with slight eyebrows
- Mid to late season maturity (105 to 110 days)
- Large and vigorous vines with pale green foliage
- High total and marketable yield potential
- Medium to large tuber size profile

Disease

- Good resistance to common scab, resistant to golden nematode race Ro1 *(DeJong, W.S.)*
- Moderately susceptible to early blight, late blight, powdery scab and potato viruses X and Y with visible foliar symptoms *(DeJong, W.S.)*
- May be susceptible to internal necrosis, blackleg and other soft rot bacteria especially in storage

OBSERVATIONS

- **Field**
  - Appears to tolerate dry conditions and heat better than most varieties
  - Very low incidence of second growth, growth cracks and hollow heart
  - High dry matter content, .004 less than Atlantic across 33 trials *(Susie Tompson, Greg Porter and Mark Pavek)*
  - Moderately sensitive to Metribuzin based herbicides
  - Acrylamide level tested lower than Snowden

- **Harvest and Grading**
  - Moderate to high tolerance to black spot and shatter bruise

- **Storage**
  - Early CIPC treatment is required
  - Tuber dormancy is approximately one week longer than Atlantic *(DeJong, W.S.)*
  - Occasionally, small areas of translucent tissue have been observed in the tubers (NB)

- **Consumer Quality**
  - Resists sloughing and greying after cooking
  - Primarily grown for chipping

MANAGEMENT ASPECTS

- **Seed**
  - Requires strict sanitation practices when cleaning the seed cutter, trucks, storages and any other handling equipment.
    - → Power wash with hot soapy water to remove all dirt and slime, follow with a disinfectant, label dependant, allow to set for a minimum of ten minutes for good bacterial control
  - Work with the seed grower to ensure the purchased seed remains dormant
    - → Seed sprouts can smear bacteria on other tubers when crushed
  - Warm the seed prior to cutting, allow for a two week healing period at 50°F (10°C) after cutting, include lots of air flow
    - → Due to its strong apical dormancy, maintaining a seed temperature of 50°F (10°C) for 2 weeks will aid in preventing erratic emergence while enhancing stem numbers
    - → If not warmed, some stem end seed pieces, if planted early in cold soil, could hinder sprouting essentially rendering a blind seed piece
  - Seed piece size target of 2 to 2 ¼ inches
    - → Increased seed piece size generally increases stem density, decreases tuber size and reduces tuber defects

- Apply a seed-piece treatment with an active ingredient for controlling *Fusarium spp*.
  - → Controlling fusarium reduces the risk of seed pieces being subjected to bacterial attack, there is no pesticide treatment for this
- Cut seed pieces should exhibit signs of pipping just prior to planting

- **Spacing**
  - Plant seed pieces close to avoid oversizing
    - → Increases the incidence of sunburn
  - Use an 8 to 9 inch in-row spacing
    - → Optimizes the tuber size profile for chip processing
  - Use a 7 inch in-row spacing for seed potato production
    - → Achieves a smaller tuber size profile and lowers the number of tubers that require cutting
      - Less cut surface area lowers the risk of seed piece decay and decreased plant stand
      - Easier to manage stem numbers in the subsequent crop

Lamoka Sets Fewer, Though Larger, Tubers Than Snowden. Planting at a Close In-Row Spacing Is A Must to Avoid Oversizing!

- **Soil Conditions**
  - Plant in well drained soil
    - → Bacterial soft rot can be spread by water movement through the soil

- **Fertility**
  - Applications of Nitrogen (~150 lbs/acre) are recommended
    - → Maximizes yield and tuber quality attributes
  - Aside from nitrogen, no current information suggests that Lamoka requires any different nutrient management than other cultivars
    - → Amendments should be based on a soil test

- **Vine Desiccation**
  - Due to its large and vigorous vines late in the season, vines should be killed a minimum of 14 to 18 days prior to harvest
    - → Allows tubers to mature and achieve good skin set

- **Harvesting**
  - Use all the best management practices possible during harvest to reduce bruising and pythium leak
    - → Avoid bruising potatoes at all costs during handling and transport to, and from, the field and storage
      - Bruising is the number one cause of soft rot decay; excessive bruising results in potatoes with high soft rot potential
    - → Managing fusarium dry rot indirectly aids in the prevention of soft rot decay; soft rot bacteria can colonize a fusarium infection and initiate soft rot decay
    - → Harvest only when pulp temperatures are > 45°F (7.2°C) and < 65°F (18.3°C)

- Place fields with the lowest disease indication in storages intended for late shipment delivery

Only Mature Tubers Should Be Harvested;
Avoid Harvesting When Conditions Are "Warm" and "Wet"

- **Storage**
  - Lamoka when stored requires a lot of oxygen, healing temperatures of 55°F(12.8°C), and a 95% RH without free water
    - → Optimizes suberization conditions to grow a wound periderm
      - a storage with a refrigeration option is an asset
  - Provide rapid drying of harvested tubers
    - → If the environment around the tubers is perfect, no free water or cool temperatures, bacterial soft rot will not develop; bacteria grow very slowly if plenty of oxygen is available
    - → Bacterial soft rot spreads very rapidly if oxygen levels become low due to excess water or slime. This develops from decay caused by diseases like pink rot, late blight, leak, etc.
    - → Manage condensation drips with overhead circulation fans
  - Once the sugar levels and respiration are stabilized, cool chip storages to a final holding temperature
    - → The majority of chip growers store Lamoka at a final holding temperature of 48 – 50°F. (8.8 – 10°C)
    - → Lamoka has low sugar accumulation in storage and can have excellent chip colour directly from cold storage 45°F (7.2°C) without reconditioning or from 42°F (5.6°C) with reconditioning.
      - Utilizing this method will help deter Translucent Tissue Defect (Transparency [refer to bulletin on Translucent Tissue Defect in Potato Chips]) later in the storage season
    - → Consistently, Lamoka's chip colour has been better than the majority of the standard chipping varieties including Snowden at 50°F (10.0°C) and 45°F (7.2°C) *(see NB data)*
  - Excellent long-term storage potential (8 to 9 months)

The Lower the Storage Temperature
The Slower Bacteria Grows

4-Year Average Production Data from Dryland Variety Trials (2016-2020)

- Trialled at 180lbs N/ac and a 10" spacing
- Average total yield (360.1 cwt/ac), 5.1% greater than Snowden
- Average marketable yield (292.8 cwt/ac), 16.7% greater than Snowden
- Larger tuber size profile, 39.4% > 2 3/4" vs 28.5% for Snowden
- Better tolerance to scab 4.4% vs 10.5%
- Similar resistance to hollow heart 0.1% vs 0.2%

- Higher specific gravity 1.0934 vs 1.089 for Snowden

Seasonal Average Chip Colour (2015 - 2019)
(Agtron Scores)

Table 1(a): *Lamoka compared to Snowden @ 50°F*

Variety	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	AVG
Lamoka	70	74	72.3	74	74.3	73.5	73.8	74.5	74	70	59	***71.9***
Snowden	68.8	71.2	70.2	71.6	69.3	70.8	68.4	69.3	65.8	64.3	65	***68.6***

Table 1(b): *Lamoka compared to Snowden @ 45°F*

Variety	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	AVG
Lamoka	73	73	74.8	74	72.5	74	71	74	72.5	70	***72.9***
Snowden	71	69	68.2	69	69	69.2	67.9	67.1	66.4	65	***68.2***

Based on information provided by the breeder, trial data collection by NBDAAF and from commercial fields. Observations and results may vary slightly depending on location and crop season growing conditions

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