

MacKINAW CHIPPER

Agronomic Highlights – Dry Land

MacKinaw is a high yielding late Maincrop variety (105-110 DAP) that has a lightly netted skin and creamy white flesh. Maturity is slightly later than Lamoka and Snowden. MacKinaw produces bold, uniform round shaped tubers with a high marketable yield. It is heat and drought tolerant with resistances to common scab, PVY and Late Blight. MacKinaw requires similar or less N than Lamoka (5-8%).

SEED MANAGEMENT:

MacKinaw has a medium-long dormancy, longer than Snowden. Maintain seed dormancy until just prior to cutting and planting. Ensure seed is > 42 F when handling. Tubers should be showing signs of “pipping” just in advance of planting, if not, a delay in emergence may occur. There have been no issues with de-sprouting before cutting. Seed should be cut to a target seed size distribution of 75-85 % between 1.5 – 3.0 ounces and minimize seed piece less than 1.5 oz. in weight. Average seed piece weight targets should not be targeted as it is highly dependent upon the mother seed lot size. **The use a drying agent at seed cutting is recommended.**

Minimize bruising during handling. Avoid any procedure that may initiate Fusarium dry rot.

MacKinaw can be pre-cut and suberized.

Use of a seed piece treatment that gives excellent control of Rhizoctonia, **Fusarium**, Silver scurf is highly recommended.

The use of an in-furrow fungicide is recommended.

IN ROW SPACING:

[Dryland Spacing: 11.5-12.5 inch] This is based on linear row planting, not bed plantings Similar to Snowden and wider than Lamoka

MacKinaw can produce a high percentage of tubers > 3.0 inch diameter if the in-row spacing is > than 12.5 inch

STRENGTHS:

Common scab, PVY, Late Blight, Hollow Heart, Rhizoctonia, Secondary Growth, Low Stem end defects, Mechanical damage, Better chip color from late season storage. Low incidence of internal defects, Chips from 48 F long term into June/July, Low Invertase that minimizes sugar conversion at lower holding temperatures

FERTILITY

P, K, Mg and micros nutrients are to be based on local soil tests results, crop yield estimates and nutrient removal rate.

Avoid excessive use of K nutrition which may suppress dry matter content.

Yield targets of 350-400 cwt/acre should be used, frequently 10-15 % higher than Snowden

MacKinaw requires less N compared to Snowden and Lamoka, approximately 5-8% less N

Excessive N rates may delay maturity and skin set, reduce specific gravity and affect long term chip color

A total N rate of 160-170 lb/acre is common for commercial production in dryland production, ideally all applied by planting. Allow soil or rotation N credits in the total N amount.

Compensate N for high C:N rotation crops (corn, sudan grass....)

Will respond to a foliar N program

Sandy soils (CEC 5-8) may require 10-15% more total N. Monitor N levels using petiole N sampling on a weekly basis beginning after 40-45 DAP. Maintain 14-18000 ppm of N from 50-70 days after planting.

COMMENTS:

MacKinaw sets ~ 10-12 tubers per plant, slightly fewer than Snowden

MacKinaw produces ~ 3.5-4.5 stems per plant, slightly fewer than Snowden

Minimize field conditions that would allow for standing water.

It can require up to 21 days from top-kill to harvest. Ensure tubers are mature before harvest.

Avoid harvesting in dry soil conditions.

Harvest tubers when the tuber temperature is > 45 F or < 60 F to **prevent black spot bruising.**

Avoid mechanical damages during handling.

MacKinaw will emerge and develop vine similar to Lamoka but the vine is more robust and vigorous than Lamoka later in the season.

If MacKinaw is to be stored for long term, use of a post-harvest fungicide is suggested.

Pre-condition above 50-52 F and slowly lower and store at 48-50 F. Can be stored at 46 F with good chip score results late in the season deliveries

MacKinaw will chip consistently from early storage onward to June-July. Earlier season chipping requires a higher holding temperature (50-52 F). Later season storage requires a colder holding temperature (46-48 F)

MacKinaw has a higher specific gravity than Snowden and Lamoka

DISEASE(S):

MacKinaw has resistances to PVY, Common scab and Late Blight

Maintain an Early Blight, Black dot, and White mold fungicide program that is typical in the production area.

MacKinaw has an equal common scab rating as Lamoka