STARCH INDEX SCALE

SUGGESTED CA STORAGE STARCH INDEX AND FIRMNESS LEVELS FOR COMMERCIAL APPLE VARIETIES IN MICHIGAN







VERSION 1.0 · SPRING 2023

AMBROSIA



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS		ESS OS)	15	short ca
1			16	MID CA
0	Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	F I R)	17	long ca
0 0 0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface. Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown. Compare each fruit with patterns in this chart and record the corresponding starch value.	S T A R C H I N D E X	3 4 6	OPTIMAL CA MATURE OVER MATURE



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BRAEBURN



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS		ESS S)	16	SHORT CA
			17	MID CA
0	Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIR/ (PO	18	long ca
0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of $10g I_2$ and $40g KI$ per gallon.	Ξ×	2.5	OPTIMAL CA
0	Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.	A R C	3	MATURE
0	Compare each fruit with patterns in this chart and record the corresponding starch value.	⊥ ∠ _	7	over mature



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EMPIRE



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS		14	SHORT CA
		15	MID CA
Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIR/	16	long ca
Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	Т× Оши	2	OPTIMAL CA
Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown		3.5	MATURE
Compare each fruit with patterns in this chart and record the corresponding starch value.	L S L	6	over mature



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EVERCRISP



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS		ESS S)	18	SHORT CA
		z z ∽⊃	20	MID CA
Collect Sample	t a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. es should be at least room temperature for best results.	FIR. (PO	22	long ca
Stain aCut ap	upples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. uples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	Т×	2.5	OPTIMAL CA
D Wait fo	or pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.	A R O	3	MATURE
O Compa	are each fruit with patterns in this chart and record the corresponding starch value.	L S ⊥	7	over mature



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FUJI



CORE STAIN

CORTEX/FLESH STAIN

т	ESTING INSTRUCTIONS	ESS DS)	16	SHORT CA
	a Collect a samely of apples from the prehard. Maturity tests should be performed on at least 10 fruit to represent the average in the block		17	MID CA
U	Samples should be at least room temperature for best results.	F I R (P 0	18	long ca
0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of $10g I_2$ and $40g KI$ per gallon.	I	2.5	OPTIMAL CA
0	 Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface. Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown. 	A R D E C	3	MATURE
O	Compare each fruit with patterns in this chart and record the corresponding starch value.	S T, I N	7	over mature



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GALA



CORE STAIN

CORTEX/FLESH STAIN

ESTING INSTRUCTIONS	E S S ^{0 S)}	16	SHORT CA
		17	MID CA
Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIR/	18	long ca
Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I_2 and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	Т×	2	OPTIMAL CA
Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown	- AR	3	MATURE
Compare each fruit with patterns in this chart and record the corresponding starch value.	S T	6	over mature



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GOLDEN DELICIOUS



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS		ESS 0S)	15	SHORT CA
			16	MID CA
0	Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIR/ (PO	17	long ca
0 0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I_2 and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	Т×	2	OPTIMAL CA
0	Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.	A R A D E	3	MATURE
O	Compare each fruit with patterns in this chart and record the corresponding starch value.	L S L N	6.5	over mature



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GRANNY SMITH



CORE STAIN

CORTEX/FLESH STAIN

т	FSTING INSTRUCTIONS	E S S ^{0 S)}	16	SHORT CA
'			17	MID CA
0	Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIR. (PO	18	long ca
0 0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	Т×	3	OPTIMAL CA
O	Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.	A R D D	3	MATURE
O	Compare each fruit with patterns in this chart and record the corresponding starch value.	⊥ ∠ I	5	over mature



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HONEYCRISP



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS		ESS S)	15	short ca
			16	MID CA
0	Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIR/ (PO	17	long ca
0 0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	ЧХ	3.5	OPTIMAL CA
O	Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.	A R 4 D F	3.5	MATURE
O	Compare each fruit with patterns in this chart and record the corresponding starch value.	⊥ ∠ _	6	OVER MATURE



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IDARED



CORE STAIN

CORTEX/FLESH STAIN

т	ESTING INSTRUCTIONS	ES(S)	14	short ca
'			15	MID CA
٥	Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIR/ (PO	16	long ca
O	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon.		2 5	
O	Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	ЦС	2.5	OF HMAL CA
O	Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.	A R	3.5	MATURE
٥	Compare each fruit with patterns in this chart and record the corresponding starch value.	⊥ ∠ _	5.5	over mature



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JONAGOLD



CORE STAIN

CORTEX/FLESH STAIN

T Ø	ESTING INSTRUCTIONS Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIRMNESS (POUNDS)	15 16 17	short ca mid ca long ca
0 0 0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface. Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown. Compare each fruit with patterns in this chart and record the corresponding starch value.	S T A R C H I N D E X	2.5 3.5 5.5	OPTIMAL CA MATURE OVER MATURE



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JONATHAN



CORE STAIN

CORTEX/FLESH STAIN

T	ESTING INSTRUCTIONS Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	FIRMNESS (POUNDS)	15 16 17	SHORT CA MID CA LONG CA
0 0 0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface. Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown. Compare each fruit with patterns in this chart and record the corresponding starch value.	S T A R C H I N D E X	2.5 3.5 5.5	OPTIMAL CA MATURE OVER MATURE



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PINK LADY



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS

- **c** Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.
- **o** Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I₂ and 40g KI per gallon.
- **o** Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.

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- **D** Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.
- **o** Compare each fruit with patterns in this chart and record the corresponding starch value.

S S S S S	16	SHORT CA
u ⊔ Z Z ≼ ⊃	17	MID CA
FIRA (PO	18	long ca
I×	2.5	OPTIMAL CA
D C D E	3	MATURE
S T∠ I N	6	over mature



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RED DELICIOUS



CORE STAIN

CORTEX/FLESH STAIN

	MID CA
Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results. $\frac{2}{3} \stackrel{\circ}{=} 18$	long ca
 Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface. 	OPTIMAL CA
• Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown. 3.5	MATURE
• Compare each fruit with patterns in this chart and record the corresponding starch value. $\frac{1}{20} = 5$	OVER MATURE



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ROME



CORE STAIN

CORTEX/FLESH STAIN

TESTING INSTRUCTIONS		ESS S)	15	SHORT CA
		Z Z ≶ ⊃	16	MID CA
0	Collect a sample of apples from the orchard. Maturity tests should be performed on at least 10 fruit to represent the average in the block. Samples should be at least room temperature for best results.	F I R ((P O	18	long ca
0 0	Stain apples as soon as possible after samples have been collected. Use an iodine solution of 10g I ₂ and 40g KI per gallon. Cut apples in half at the equator. Immediately dip, spray, or roll starch solution on cut surface.	н С	3	OPTIMAL CA
0	Wait for pattern to develop, which may be several minutes, but rate sample within 20-30 minutes before cut surface of fruit turns brown.	A R 4 D F	3	MATURE
0	apare each fruit with patterns in this chart and record the corresponding starch value.	⊥ ∠ _	5.5	OVER MATURE



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