

MAPLE SYRUP QUALITY CONTROL:

COLOR

Maple syrup color is the product of sap composition, natural reactions and the effect of heating in an evaporator. Color can range from almost clear, light golden to syrup that allows almost no light to pass through. Grade A pure maple syrup must be correctly placed into one of four color classes.

The color classes are based on the syrups light transmittance and are as follows:

GOLDEN/DELICATE 100-75%	AMBER/RICH 74.9-50%	DARK/ROBUST 49.9-25%	VERY DARK/STRONG 24.9-0%
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- Many producers use temporary color comparator with glycerin tinted to match the darkest color within each grade.
- Syrup packaged in uncoated plastic jugs darken close to 3% per month.



POSSIBLE ISSUES OF SYRUP NOT MEETING GRADE:

COLOR

- Syrup color packaged at the low end for grade
- Darkens when overheated during canning
- Old grade kits with faded glycerin
- Prolonged storage in retail packages
- Using old grade system
- Too much headspace in bulk or retail containers

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MAPLE SYRUP QUALITY CONTROL:

DENSITY

Pure maple syrup in Vermont can range in density from 66.9-68.9° Brix.

Accurately measuring density involves taking precise measurements. The temperature of the syrup must be measured right before using a hydrometer.

The process can easily produce incorrect results if one or more of the steps is skipped.

Syrup that is above the standard for density is supersaturated and will produce sugar crystals.

Syrup that is below standard density has a greater risk of becoming contaminated with mold or becoming fermented.



POSSIBLE ISSUES OF SYRUP NOT MEETING GRADE:

DENSITY

- Not using hydrometer
- Hydrometer not checked for accuracy
- Boiling point of water not checked each day
- Syrup temperature not measured when using a hydrometer
- Syrup becomes more concentrated when overheated during canning

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MAPLE SYRUP QUALITY CONTROL:

CLARITY

Most of the cloudiness found in unfiltered syrup is a naturally occurring calcium precipitate also known as sugar sand or niter.

Syrup clarity is a reflection of how well this cloudiness has been removed during filtering.

Gravity filtering, while not as effective as pressure filtering with filter aid, can produce acceptable results.

More sugar sand can be formed if syrup is allowed to overheat [during filtering].



POSSIBLE ISSUES OF SYRUP NOT MEETING GRADE:

CLARITY

- Cloth filter worn out or damaged
- Filter press not set up correctly
- Filter press pressure too high leading to damaged filter paper
- Incorrect density leading to crystal or mold development
- Syrup is overheated during canning, forming more sugar sand
- Sugar sand particle size too fine to be filtered out

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MAPLE SYRUP QUALITY CONTROL:

FLAVOR

Maple syrup has a pure, delicate and distinctive flavor that sets it apart from all other sweeteners.

Make sure to taste EVERY BATCH of syrup before preparing the syrup for consumers or bulk storage. In general, syrup flavor is stronger as color gets darker.

The same delicate flavor that makes maple unique does not hide defects well.

Make sure syrup is only packed into containers that are clean and have been inspected and deemed suitable for syrup.

Barrels that were steam cleaned can impart "musty" flavor if barrel isn't well rinsed before filling.



POSSIBLE ISSUES OF SYRUP NOT MEETING GRADE:

FLAVOR

- Syrup batch never tasted or tasted while too hot
- Too much defoamer or old defoamer used
- Barrels not clean or checked for odors
- New cloth filters not rinsed in clean water
- Buddy syrup considered late season and not a defect
- Person tasting syrup inexperienced or with diminished sense of taste
- Used filters or filter aid (DE) stored improperly and impart flavor (musty)

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