

ODOR AND FLAVOR

PRINCIPLE

Odor and flavor are evaluated by a trained sensory panel, using carefully standardized procedures. Panel members must be selected and trained according to accepted guidelines (Note 1).

SCOPE

This procedure is applicable to all corn syrups, especially high fructose corn syrups.

SPECIAL APPARATUS

1. Sensory Evaluation Room: A room equipped with a table and chairs, free of noise and odors, is required.
2. Sample Containers: Glass jars, 4 oz, capped with odor-free lids, without cardboard liners
3. Plastic Cup: 4 oz, for flavor testing
4. Spit Cups: 8 oz
5. Evaluation Sheets

PROCEDURE

General Instructions:

In the sensory evaluation room, a sample of each corn syrup is divided into clean, odorless, randomly coded jars. The level of sample in each jar should not exceed 50% of the total volume of the jar. Samples are set aside for at least three hours before odor evaluation.

Panels may be conducted twice a day, ideally in mid-morning and mid-afternoon. Panelists should not be subjected to strong odors and should not

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be allowed to smoke or ingest coffee, soft drinks, or food for at least fifteen minutes (preferably thirty minutes) before a testing session.

A panel will consist of at least three panelists and a leader.

Upon entering the room, each panelist will be seated, and provided with unsalted crackers, an adequate amount of purified water, and a spit cup.

Each panelist will be furnished with a set of samples and an evaluation sheet for each sample.

Silence must be maintained in the room during the individual evaluation period for each sample. During this time, the sample is evaluated first for odor, then for flavor.

No more than 5 samples will be evaluated in a session, and time intervals between sample evaluations must be the same for all panelists.

Odor Analysis:

Each panelist holds the sample jar so that his or her nostrils are adjacent to the side of the lid. The lid is carefully unscrewed and tipped up, so that the nostrils are in the opening between the jar and lid.

At the first possible instant, the panelist inhales deeply and concentrates on detecting odors from the sample.

The panelist then closes the jar and lists the type and intensity of any odors detected on the evaluation sheet.

The panelist then opens and tests the sample a second time, as above, to try and identify odors missed on initial testing; further results are recorded on the evaluation sheet.

At the end of each sample evaluation, each panelist will read his or her comments to the others, and the leader will help the panel arrive at a consensus on the type and level of each odor identified.

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Flavor Analysis:

Before testing each sample, each panelist must clean the palate by chewing unsalted crackers and rinsing with water into the spit cup. The same procedure should be used during the testing of a single sample if the taste buds become saturated with a particular flavor.

The panelist takes part of the sample into the mouth, coats the taste-bud area of the tongue with the sample, and spits the sample into the spit cup. He or she then records any detected flavors and their intensities, on the evaluation sheet.

The panelist then rinses the palate and mouth with water into the spit cup.

The panelist then takes a second sample into the mouth and "rolls" it with the tongue around the entire mouth before spitting it out. He or she records any aftertaste and mouthfeel characteristics on the evaluation sheet.

After all panelists have evaluated the sample, they will read their comments to the others, and the leader will help the panel arrive at a consensus on the type and intensity of each flavor identified.

NOTES AND PRECAUTIONS

1. "Guidelines for the Selection and Training of Sensory Panel Members," ASTM Publication No. 758, and "Manual on Sensory Testing Methods," ASTM Special Technical Publication No. 434; American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

METHOD HISTORY

Corn Syrup, Odor and Flavor (E29a), Date of Acceptance 10-21-1986.