

Bacterial Growth - Food

Bacteria, yeasts, and molds can grow on just about anything... but like carbohydrate and proteins.

Think about the foods that spoil the quickest...
These are the ones we are concerned about.



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Before judging a product, ask yourself...

Should this product have been refrigerated for safety?

Would you eat this at room temperature?

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Bottom line...

By recognizing those conditions that will allow bacterial growth, one can identify foods that might be potentially hazardous.

Definition of potentially hazardous food:

- neutral acidity – pH range 4.6 – 7.8
- Meats, eggs, milk, some cheeses, etc...
- water activity – 0.86 or above
- most fresh foods
- stored above 40°

Hazardous food:

- add hermetically sealed or the introduction of an oxygen free environment

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Quick Loaf Bread Quality

Work done last year indicated that vegetable flavored breads – Zucchini, pumpkin, and others were safe even though the water activities were high.

Why?

Internal temperature of quick bread loaf exceeds 190°F. This temperature kills all vegetative bacteria.

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Product quality evaluation

General Considerations

Looking for products that are appealing, characteristic, and representative of the genre of product.

Evaluation is based upon:

- A. APPEARANCE
- B. AROMA
- C. FLAVOR
- D. TEXTURE/CONSISTENCY
- E. TENDERNESS
- F. TECHNIQUE



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Baked Products Quality

Items to look for:

- surface coloration
- unincorporated ingredients such as flour
- grain (texture) and color of cut product
- uniform size and incorporation of ingredients
- greasy
- shape is characteristic of product

Smell for:

- oily or rancid aroma
- overly yeasty or sour
- presence of added ingredients
- burnt



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Baked Product Quality

Flavor and Texture by Mouth:

- textural characteristics
- tenderness
- mouth feel/consistency
- moistness

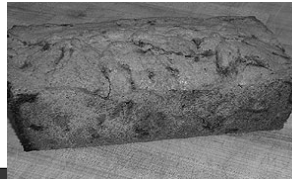
flavor characteristics

- characteristic of product
- off flavors – bitterness, burned, soapy
 - list goes on and on
- bland or lack of flavor

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Nice rounded loaf without any overflow of pan. Surface is evenly browned with a surface crack acceptable. Sides are not darkened extensively relative to the remainder of the product.

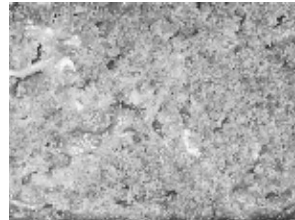


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Top surface crack is acceptable. The dough should not appear wet but may look moist

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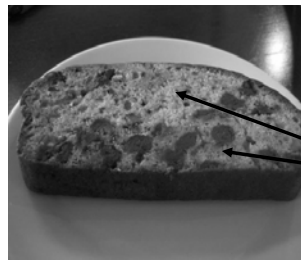
Texture is uniform without being crumbly or dry. Ingredients are well dispersed throughout the product. Crumb color is typical of product.

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Whole fruit, nuts, or other additions are uniformly distributed throughout the loaf without settling. Ingredient color is typical and not washed out or overly browned.

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Pronounced sinking of fruit

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This is a garnish and not segregation of an addition.



Swirl is not evenly distributed but it would be difficult to count points off for this.

HOWEVER..

Product may have a doughy undercooked portion.



Asymmetrical – a defect? Not always.

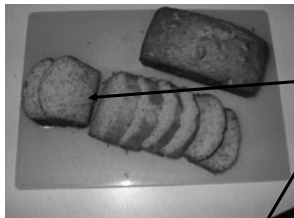
This product is “Peaked” meaning that it was over mixed.



This is a peak. Caused by overmixing the batter. Note that the pan has not overflowed so it was not overfilled.



Note the overflow of the pan. Typically undesirable resulting in either burned or dried product.



Note the discoloration caused by either too hot of an oven or placement too close to the bottom element of the oven or glass pan with too hot of oven.



General recommendation for cooking in glass is to reduce oven temps by 25°

Low rise and baked at too hot





Low volume:

Inaccurate measuring methods;

Too little leavening or flour;

Underbaked (but look at crust color – too hot oven?);

Too much fruit.



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Note the fine grain, even distribution of nuts, and relatively thin crust.

Color of crust is uniform around the loaf.

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Questions...



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