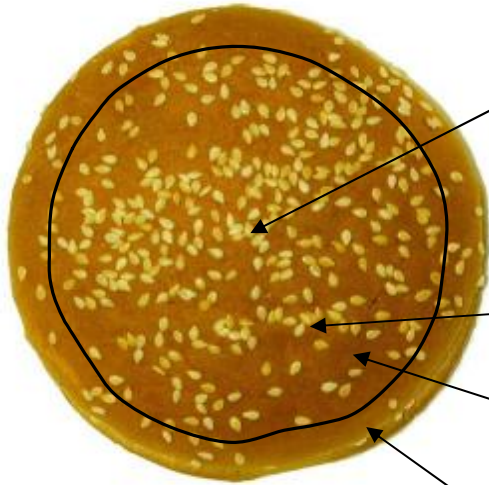


BUN QUALITY MEASUREMENT SUMMARY

Crown Top Measurements



Crown Height: Average of the 100 highest points anywhere on the crown surface. Usually these points will be taken from the center of the crown, but for a badly sloped crown the high point may be off center. Each point covers approximately 2 square mm. The 100 points cover approximately 2.5% of the crown surface.

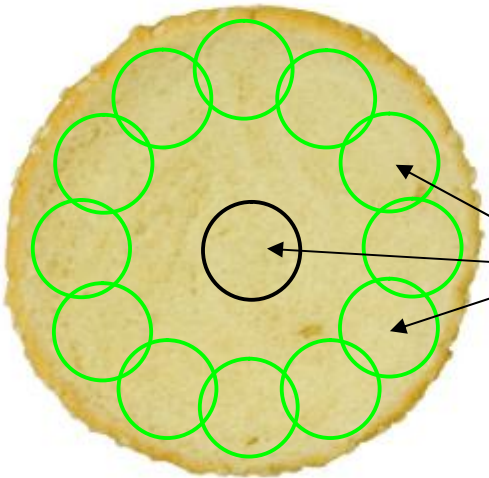
Crown Diameter: Average of 45 evenly spaced diameters.

Seed area %: The percentage of the crown surface covered by light areas. Light areas are primarily seeds, but may include flour, splits or blotchy areas on very light crowns.

Unseeded crown color: The average bake color of the crown surface not covered by seeds, flour or other light areas. Higher numbers mean lighter crown colors.

Guard Band: Guard band of 10 mm not used in any color or seed calculation, but included in height, diameter and slope calculations.

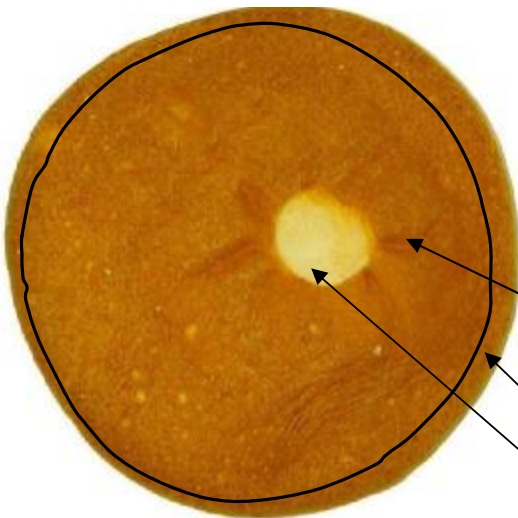
Crown Cupping Measurement



Crown cupping: Difference between the center spot height and the average height of all the edge regions, where each edge region is a circle of diameter 20 mm located 25 mm from the center of the crown. There are 12 evenly spaced edge regions. For freshly sliced buns, machine cupping causes crown cupping. For older product, crown cupping is a combination of machine cupping and aging.

If the crown top is sloped or deformed, the bun will not sit evenly on the conveyor belt. This will cause the machine cupping measurements to be less accurate, but they will still be valid measures.

Heel/Club Measurements



Slice Height: Average height of the slice or club slice.

Heel Color: The average bake color of the bottom heel surface not covered by light areas. Higher numbers mean lighter heel colors.

Guard Band: Guard band of 2 mm not used in any calculation.

Light Areas: Ignored in color calculation