

# 51% Whole Wheat Roll

**Makes:** 100 servings

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Ingredients	Weight	Measure
Whole wheat flour	3 lb 12 oz	3 qt 2 1/8 cups
Enriched all-purpose flour	3 lb 8 oz	3 qt 3/4 cup
Instant nonfat dry milk	7 oz	3 cups
Sugar	11 1/2 oz	1 3/4 cups
Instant dry yeast	3 oz	1/2 cup
Salt	1 3/4 oz	2 Tbsp 2 tsp
Vegetable oil	12 7/8 oz	1 2/3 cups
Water	4 lb 5 oz	2 qt 1/4 cup
Pan release spray	as needed	

## Nutrition Information

Key Nutrients	Amount	% Daily Value
<b>Total Calories</b>	<b>166</b>	
Total Fat	4.18 g	
Protein	4.99 g	
Carbohydrates	29.08 g	
Dietary Fiber	2.68 g	
Saturated Fat	0.64 g	
Sodium	205 mg	

## Directions

1. Blend flour, instant nonfat dry milk, sugar, yeast, and salt in mixer.
2. Blend with dough hook for approximately 2 minutes on low speed.
3. Add vegetable oil and blend for approximately 2 minutes on low speed.
4. Add 2 quarts of water. If the dough appears too stiff, add up to 1 cup extra water per 100 servings. More or less water can be added as needed. Mix for 1 minute on low speed.
5. Knead dough on medium speed for 8-10 minutes until dough is properly developed. Use the gluten stretch test.

(At 8 minutes, stretch the dough like a rope. If it breaks, continue to mix an additional 2 minutes.)

6. Form dough into 7- 2 pound balls and spray with pan release spray or cover with plastic wrap. Once all dough balls have been formed, begin shaping.

7. Form rolls from dough by pinching off 2 oz pieces and shaping. Place rolls in rows of 7 across and 10 down on 1 ½ sheet pans (18" x 26" x 2") which have been lightly coated with pan release spray.

8. Place in warm area (about 90 °F) until doubled in size, approximately 45-60 minutes.

9. Bake until lightly browned: Conventional oven: 400 °F for 18-20 minutes, or Convection oven: 350 °F for 12-14 minutes.

10. Recommended internal temperature for baked whole wheat rolls is 196 °F-198 °F.

11. Rolls will have a better appearance if lightly sprayed with pan release spray when they come out of the oven.

## Notes

Additional Tips:

Note: Dough made with whole wheat flour will absorb more water and requires increased rising/proofing time. Mixing time is less because the bran from the whole grain cuts through developing gluten strands with increased mixing, resulting in a product with low volume. Even an additional one minute mixing time with whole grains can make a difference in quality. Figuring water temperature so that the final dough temperature is about 80 °F is essential for quality bread products. Calculate water temperature by subtracting the temperature of the dry ingredients from 145 °F.