

PuraQ[®] Arome NA4 in salt reduction



- Market** Bakery products and ingredients
- Applications** Bread types:
 - Tin bread (incl. heart baked bread, open and closed top)
 - Crispy bread (baguettes, petit pain, pao francaise, etc.)
 - Buns (hamburger, soft rolls, samoule, etc.)
 - Sugar rich (tin bread, open and closed top, buns, etc.)
 - Arabic bread
 - Others (steam bread, rye bread, pizza, etc.)
- Ingredient** PuraQ Arome NA4
- Recommended dosage** 1 – 2% on flour weight
- Objective** Demonstrate effect of reducing NaCl by 20% in French bread and white sliced bread.
- Formulation** French bread recipe

Ingredients	Control	20% Salt reduction + 2% PURAQ AROME NA4	20% Salt reduction
	%	%	%
Wheat Flour	58.285	58.082	58.456
Salt	1.166	0.929	0.877
PURAQ AROME NA 4	0.000	1.162	0.000
Sugar	0.583	0.581	0.585
Esterlac E	0.117	0.116	0.117
Arcorbic Acid	0.008	0.008	0.008
Hemicelulase Veron 191	0.002	0.002	0.002
Hemicelulase Veron RL	0.001	0.001	0.001
A. Amylase Veron M4	0.001	0.001	0.001
Yeast	0.787	0.784	0.789
Water	39.051	38.334	39.165

Sliced white bread recipe

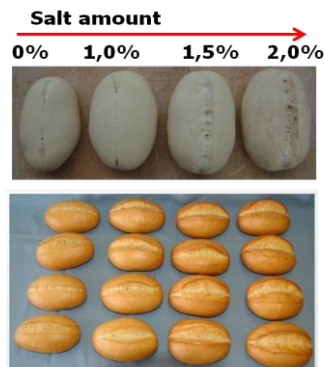
Ingredients	Control	20% Salt reduction + PURAQ AROME NA4	20% Salt reduction
	%	%	%
Wheat Flour	56.571	56.076	56.712
Salt	1.245	0.987	0.998
PURAQ AROME NA 4	-	1.122	-
Sugar	2.263	2.243	2.268
Hydrogenated Vegetable Fat	1.697	1.682	1.701
Esterlac E	0.113	0.112	0.113
Ascorbic Acid	0.008	0.008	0.008
Hemicellulases Veron 191	0.002	0.002	0.002
Hemicelluloses Veron RL	0.001	0.001	0.001
A. Amylase Veron M4	0.001	0.001	0.001
Yeast	0.764	0.757	0.766
Water	37.337	37.010	37.430

Results

20% NaCl reduction French bread

First trial was demonstration of what effect is seen when ranging NaCl.

The effect of reducing salt by max. 20% shows effect on texture and volume, as can be seen in figure below:



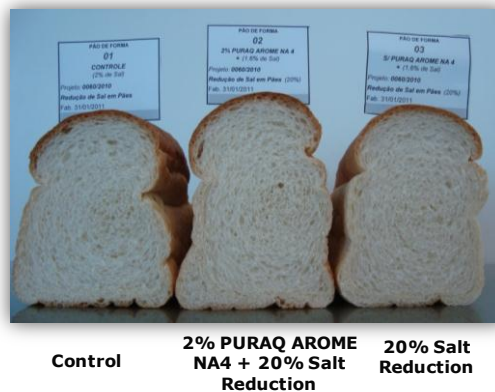
In the next step the reduction of NaCl was compensated by addition of PuraQ Arome NA4.

	Control	2% PURAQ AROME NA4 + 20% Salt Reduction	20% Salt Reduction
Fermentation Time	15:25	15:00	15:10
Specific Volume	8	10,7	8
Observations	Good volume, easy processing	Short proofing, bigger volume	Acceptable proofing, volume, but lesser dough handling



Results white sliced bread

Similar to the effect in French bread, the reduction in NaCl results in quality defects, but these can be restored using PuraQ Arome NA4.



Conclusions When reducing salt by 20% in both trials addition of 2% PuraQ Arome NA4 resulted in slightly shorter proofing, increased volume and acceptable taste, crumb texture and dough handling. No color difference was observed.

Service For any information on the product we refer to the product datasheets. In case you require support on formulation or recommended dosage, Purac is able to assist you locally as well as with our nutrition tool.