H&F Pectins for Bread Improvement
Pectins are well-known especially as gelling agent in jams or confectionery. However, it is possible to use them by far more versatile. High ester pectins such as Pectin Classic CJ 206 which is developed for this application, are very well suited as an alternative to common bread improvers. With the addition of these pectins the doughs become softer and smoother. As a consequence of the improved tolerance of the dough it is possible to manufacture breads with higher volume. This effect also supports improving the freeze-thaw stability of dough pieces.

Another advantage is the high water binding capacity of these soluble dietary fibers. The crumb becomes and also remains more juicy for a longer time. This especially positive effect can be seen in the manufacture of dietary fibre rich breads in combination with mainly insoluble dietary fibres. Insoluble dietary fibres, indeed, increase the dough yield more or less intense, however the gluten network is thus weakened.

The resulting volume decrease can be compensated with pectin. In contrast to bread improvers showing a similar functionality, pectin, however, contributes entirely to improving the nutritional quality of the bread and has a throughout positive consumer image.

As bread and bread rolls are an essential nutrition component in many countries also the increased dietary fibre content of these products contributes decisively to a balanced and healthy nutrition. Today, it is a proven fact that the intestinal flora here has an eminently important function. From physiological point of view pectins operate in exactly this environment. They support the body to build a balanced intestinal flora. As a consequence thereof also the saturation effect and the immune defence, both central points as regards the avoidance of civilisation diseases, are regulated.

Depending on the objective a dosage of 0.5 up to 2% pectin, related to the used flour, is recommended.

Advantages of pectin in manufacturing bread

- Soft, elastic doughs with improved tolerance
- Improving the freeze-thaw stability of dough pieces
- Increasing dough volume
- Improving crumb juicyness
- Positive effect on fresh-keeping
- Synergistic effects with insoluble dietary fibres
- Positive consumer image
- Contribution to a healthy nutrition
# Recipe

**Dough pieces for bread and bread rolls with improved freeze-thaw stability**

<table>
<thead>
<tr>
<th>Pectin Classic CJ 206</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 g Wheat flour type 550&lt;sup&gt;1)&lt;/sup&gt;</td>
<td>A Give the flour resp. mix of flour/Pectin Classic CJ 206, other ingredients as well as water together into a kneading kettle and let knead.</td>
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<tr>
<td>50 g Yeast</td>
<td></td>
</tr>
<tr>
<td>15 g Salt</td>
<td>B Take the dough out and let stand at room temperature for 20 minutes.</td>
</tr>
<tr>
<td>10 g Sugar</td>
<td></td>
</tr>
<tr>
<td>10 g Fat</td>
<td>C Form the dough pieces, flash-freeze and pack.</td>
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<tr>
<td>5 – 20 g Pectin Classic CJ 206</td>
<td></td>
</tr>
<tr>
<td>610* g Water</td>
<td>D Thaw customarily and bake.</td>
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</tbody>
</table>

<sup>1)</sup>According to water uptake as per farinogram; the pectin dosage does not influence the water absorption.

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<sup>1)</sup> all purpose wheat flour

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