Meat and sausage products
Vegetable oils and fats from Walter Rau.
Meat products

Vegetable oils and fats for optimizing meat products

Studies prove: the Germans have too unhealthy eating habits. About 70% of the German citizens suffer from an elevated cholesterol level. A high-fat diet with high proportions of saturated fatty acids is said to be responsible for it. However, not all fats are the same. Whilst animal fats may raise the blood cholesterol level due to their high proportion of saturated fatty acids, polyunsaturated fatty acids lower the cholesterol level. That’s why the German Society for Nutrition (DGE) recommends eating less saturated fatty acids that can be found, above all, in meat and sausage products. But does that really mean we should completely do without meat and sausages?

No, it doesn’t, since sausages in which part of the animal fats has been replaced by healthier vegetable oils offer a true alternative. These products simplify cholesterol-conscious nutrition without having to miss an enjoyable meal. The use of pure vegetable oils, like, for example, rapeseed oil, allows producing sausages featuring a particularly favourable fatty acid pattern.

Moreover, vegetable oils are an important ingredient of many marinades. Through marinating in vegetable oil, the meat is no longer exposed to air and the shelf-life of the products is increased. The meat remains tender and doesn’t dry out. In addition, an oleaginous marinade improves the taste. The liposoluble flavours penetrate the meat and ensure a consistent and harmonious flavour development. Marinades based on special marinade fats keep herbs and seasonings well balanced. Moreover, their consistency helps easily and evenly spreading the marinade on the meat. The structure remains clearly visible underneath the marinade, while the surface receives an appealing gloss.

To give you an overview of the different oils and fats for each field of application, we have listed some examples on the following pages.

Although vegetable oils and fats are mostly standardised products, there is no universal solution for many applications. Special products require special fats. We know that individual solutions need individual consulting – and that’s our strong point. We will always be ready to listen to your wishes and questions.

Sausage products

Use of vegetable oils and fats in sausage products

The use of vegetable fats in sausage products is particularly interesting for poultry products. From a legal point of view, raw sausages, like, for example, turkey hen salami, may contain ingredients of other meats, too. However, when buying poultry sausage, the consumer expects to receive a genuine sausage. This would mean that also the bacon bits in the salami may not come from pork. Since poultry itself does not contain enough fat, or does not contain fats suitable for the production of sausages respectively, using vegetable fats makes sense, since they are very close to bacon as regards their melting behaviour and mouth feel. This way, other genuine sausage products can be produced as well, for example from venison or beef.

The use of vegetable oils and fats in sausage products can also make sense taking nutritional-physiological aspects under consideration: by adding vegetable oils to boiled or cooked sausages, sausage products with an optimized fatty acid profile can be produced.
Here it’s all about sausages

The sausage is one of the oldest foods known and an important constituent of wholefood nutrition. Variety is guaranteed: today, more than 1,500 types of sausages are available on the German market. To ensure a consistently high quality, all producers must observe strict legal regulations.

The raw mixture (sausage meat) is prepared from crushed fresh meat (pork, beef, veal, lamb, poultry, horse, or game), bacon, salt, and seasoning and cooked in different ways. For fine sausages, the ingredients can be comminuted in a cutter to a homogeneous mass. Thereafter, the sausage meat is stuffed in natural or synthetical guts or in jars or cans. Some types of sausages receive a particular characteristic flavour through being smoked in special smokehouses, which also serves for preservation purposes.

Product application
Calf liver sausage and turkey hen salami

Application example calf liver sausage

Calf liver sausage contains lean calf meat, bacon, and calf liver. When replacing the animal fat by high-quality vegetable fat, the saturated fatty acids can be considerably reduced, while adding many vitally important polyunsaturated fatty acids at the same time. Among these are both omega-3 and omega-6 fatty acids. Thus calf liver sausage prepared with Vegolio is ideally suited for a dietary nutrition.

Recommended WR products

<table>
<thead>
<tr>
<th>Description</th>
<th>SAFA %</th>
<th>MUFA %</th>
<th>PUFA %</th>
<th>S/U RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegolio 22240</td>
<td>32</td>
<td>52</td>
<td>16</td>
<td>1.2:1</td>
</tr>
<tr>
<td>Vegolio 22630</td>
<td>25</td>
<td>30</td>
<td>45</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Application example turkey hen salami

With salami, as already mentioned before, not the reduction of animal fats is in the foreground but the purity of variety, like, for example, the exclusive use of poultry. The physical demands like cut resistance and optical appearance require a vegetable fat containing about 50% of saturated fatty acids. Pralisan meets these requirements and is available in block packaging.

Technological remark: The vegetable fat should be added to the meat in the cutter as deep-frozen cubes.

Recommended WR products

<table>
<thead>
<tr>
<th>Description</th>
<th>SAFA %</th>
<th>MUFA %</th>
<th>PUFA %</th>
<th>S/U RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pralisan 94350</td>
<td>56</td>
<td>87</td>
<td>7</td>
<td>1.05</td>
</tr>
</tbody>
</table>
Product application
Vegetable oils and fats for marinating

All types of meat can be marinated, whether beef, pork, or poultry. For some of them, a marinade made of olive oil, garlic and some fresh herbs is sufficient, for others, it is a sophisticated marinade consisting of a variety of ingredients that makes barbecued or pickled meat a real culinary delight. Fans of marinated meat are convinced: Those who once tasted it would not like to do without it any longer. Marinated fresh meat has a particularly good taste when having been exposed to the marinade for a longer period of time. Buy now and have a barbecue one hour later – that has long been possible for fried sausages only. Meanwhile, many manufacturers of convenience food offer marinated meat ready for barbecue. Naturally, for deep-frozen products, other criteria apply that are mostly related to processing technology.

Whether Asian, Mexican, or Mediterranean – with the marinade, the culinary character of a barbecue of cooking event can be creatively influenced. In this respect, we would like to draw special attention to our new vegolio mix & match series that perfectly unites functionality and taste by using cold-pressed oils.

Technological remark: All marinades can be customised according to customer’s individual requirements as to their transparency, gloss, and viscosity.

Recommended WR products

<table>
<thead>
<tr>
<th>Description</th>
<th>SAFA %</th>
<th>MUFA %</th>
<th>PUFA %</th>
<th>S:U RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canolin 27070</td>
<td>15</td>
<td>59</td>
<td>26</td>
<td>1.56</td>
</tr>
<tr>
<td>Canolin 27040</td>
<td>13</td>
<td>60</td>
<td>27</td>
<td>1.67</td>
</tr>
<tr>
<td>Sonnin</td>
<td>38</td>
<td>41</td>
<td>21</td>
<td>1.16</td>
</tr>
<tr>
<td>Palm oil free marinade 20470</td>
<td>17</td>
<td>58</td>
<td>24</td>
<td>1.49</td>
</tr>
<tr>
<td>Palm oil free marinade 22990</td>
<td>16</td>
<td>59</td>
<td>25</td>
<td>1.53</td>
</tr>
</tbody>
</table>

Explanation of the abbreviations

- SAFA %: Proportion of saturated fatty acids
- MUFA %: Proportion of monounsaturated fatty acids
- PUFA %: Proportion of polyunsaturated fatty acids
- S:U RATIO: Ratio of saturated to unsaturated fatty acids; optimum is a value of at least 1.2:1 – i.e., at least double the content of unsaturated fatty acids

*Recommendation of the German Nutrition Society (DGE)

Nutritional physiological key figures

Good products are those which meet the customers’ requirements. Therefore, new products are created in close cooperation with you, our customers. In our product developments, cultural and religious values will be just as much taken into consideration as nutritional-physiological trends or the new consumer habits.

The expert staff of our Application Technology Department will not only guide you regarding the selection of suitable fats and oils but also support you in every way possible with the tuning of your preparations and processes – at our Technological Centre or on-site with you. We will also be ready to solve more in-depth issues with the support of our competent laboratory team, which can fall back on a wide range of analysis methods.
## Packaging options

**Packaging options**

<table>
<thead>
<tr>
<th>Packaging options</th>
<th>liquid</th>
<th>paste-like</th>
<th>solid</th>
<th>general remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 4 x 2.5 kg / 10 kg / 12.5 kg / 20 kg / 25 kg</td>
<td></td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bag 25 kg</td>
<td></td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bag in Box 3–20 litres</td>
<td>●</td>
<td>●</td>
<td></td>
<td>powder, pearls, scales on request (for high-melting products)</td>
</tr>
<tr>
<td>Tinplate buckets 10 litres</td>
<td>●</td>
<td>●</td>
<td></td>
<td>several nozzles possible</td>
</tr>
<tr>
<td>Plastic buckets 25 litres</td>
<td></td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drum 180 kg</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk container 1,000 litres</td>
<td>●</td>
<td>● ● ●</td>
<td></td>
<td>optionally with electrical heating, IBC or steel</td>
</tr>
<tr>
<td>Tank trucks</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barge &gt;250 tons</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Product consistency**

- **Liquid**
- **Paste-like**
- **Solid**
- **General remarks**

## Product Consistency

- **Liquid**: Block 4 x 2.5 kg / 10 kg / 12.5 kg / 20 kg / 25 kg
- **Paste-like**: Bag 25 kg
- **Solid**: Bag in Box 3–20 litres

## We can supply on demand

- Tinplate buckets 10 litres
- Plastic buckets 25 litres
- Drum 180 kg
- Bag in Box 3–20 litres
- Block 4 x 2.5 kg / 10 kg / 12.5 kg / 20 kg / 25 kg
- Bag 25 kg
- Steel IBC (Aseptic IBCs)
- Heated IBCs
- Folding IBC
- Standard IBCs
- Tank trucks
- Barge >250 tons

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