SOME TREATMENT FOR SOYA BEANS
ANTINUTRITIVE FACTORS INACTIVATION

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SUMMARY

Legume seeds meals increased feed utilization raises problems concerning antinutritive factors. Antinutritive factors from feed come in majority from soya bean meals and other soya products. This paper means a small piece in a whole complex of problems concerning antinutritive level from soya, keeping protein quality and a proper evaluation of inactivation process.

Soya beans with a moisture content of 10,8%, protein 33.27%, oil content 19.9%, TI activity 92.14 TIU/mg were subjected to inactivation treatment of antinutritive factors by heating at 105º C, respectively 120º C, for 20 minutes, steam atmosphere.

The antinurritive level was determined by the methods: Urease activity- IOS method 5506/1978; Tripsin inhibitor activity- Kakade method; Lectin activity- Petres method.

Table 1. The performance of the heat treatment in terms antinutritive factors in activation is quantified in the

<table>
<thead>
<tr>
<th>Soya bean sample</th>
<th>Urease activity</th>
<th>Tripsin inhibitor activity</th>
<th>Lectin activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated sample (basic values=100%)</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Treated sample (105º C)</td>
<td>34</td>
<td>34.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Treated sample (120º C)</td>
<td>2.5</td>
<td>11.24</td>
<td>4.7</td>
</tr>
</tbody>
</table>

An efficient treatment process confers a balance between the desirable reduction of TI activity and undesirable reduction of available lysine. This compromise is only partly successful; residual TI activity can contribute to pancreatic hypertrophy, growth depression and lower protein digestibility.

Scientific progresses must complete the classic methods of antinutritive factors level determination. Both methods regard only trypsin inhibitor activity. In fact it seems that the other antinutritive factors (between 9-18 factors, following different sources) must be considered. Usual inactivation processes of antinutritive factors from soya bean still present some potential risk for animal and human health.

BIBLIOGRAPHY