MODELS (NOMINAL LOGISTIC REGRESSION AND ANOVA) FOR LEAD ACCUMULATION IN HONEY

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SUMMARY

A major concern for consumers is the presence of Pb in honey. A 4 years survey of Pb concentration in honey in several counties of Romania was aimed to discriminate between honey varieties lead content. Due to the honeybees collection habits we have suspected that summer honey (sunflower honey and multifloral honey) may exhibit larger Pb concentrations than the spring honey (acacia honey). However we have found that the differences were not significant between honeys collected in the proximity of major roads from areas all over the country (fig 1, table 1.)

In order to estimate the probability for collecting honey with Pb concentrations under 0.45 ppm - MAL (maximum admissible limit) the data were modeled by using nominal logistic regression over the 4 years of study for honey variety The highest probability to obtain honey of 0.41 ppm (slightly under the MAC limit) was found to be of 52.5% for acacia honey and only 12.1% for the sunflower honey (Figure 2).

Mean values for honey types collected 17 counties of Romania Table 1. Levels not connected by same letter are significantly different

<table>
<thead>
<tr>
<th>Level</th>
<th>Mean</th>
</tr>
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<tbody>
<tr>
<td>sunflower honey</td>
<td>A 0.871</td>
</tr>
<tr>
<td>multifloral honey</td>
<td>A 0.838</td>
</tr>
<tr>
<td>acacia honey</td>
<td>A 0.817</td>
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</tbody>
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