

**DETERMINATION OF NITRITE & NITRATE SPECIES BY HPLC-DAD  
– and OCCURRENCE OF NITRITE NITRATE IN MEAT AND GREEN  
LEAFY VEGETABLES FROM ANKARA, TURKEY MARKETS**

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Due to their adverse effects on health, although nitrite and nitrate are undesired food additives, they are usually added to processed meat products to protect against microorganisms that may cause food poisoning. Nitrite can react with secondary amines to form nitrosoamines, a class of carcinogenic compounds, in food products or in the digestive system. Nitrate, although more stable than nitrite, can act as a reservoir for nitrite. Also, nitrate can readily be converted into nitrite by microbial reduction. Green leafy vegetables are the major sources for dietary intake of nitrate. Level of nitrate in vegetables depends on nitrogen in soil. Higher the nitrogen content of soil, higher the nitrate content of vegetables grown there. The aim of this study was to investigate the incidence and levels of nitrite and nitrate in cured meat (sausage, salami) and green leafy vegetable samples in Ankara, Turkey. The levels of nitrite and nitrate were determined using HPLC-DAD. A total of 70 products were analyzed during the first 6 months of 2014. Homogenized samples extracted and the supernatants were collected and filtered through 0.45µm syringe filter and injected to HPLC via 20µL loop. Nitrite- nitrate species were determined by XDB C<sub>18</sub> column. TMAHSO<sub>4</sub> and TMAH in phosphate buffer were used as ion pairing agents. The accuracy of the proposed method has been checked by analyzing spiked samples and 88-110% recoveries were obtained. Intra-day and inter-day precision studies were also performed with RSDs below 15% for both.

Keywords: nitrite-nitrate, HPLC-DAD, cured meat, green-leafy-vegetables

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