The objective of the present work is the estimation of the 210Po content in some beverages and in tobacco, in order to assess the corresponding collective doses to the population in Argentina. Yerba mate, tea leaves, their infusions and ground coffee were analyzed, as well as tobacco. Collective doses due to the annual consumption of the beverages described were found to be from 6 man.Sv to 1200 man.Sv. Results for 210Po in tobacco ranged from 10 Bq·kg⁻¹ to 80 Bq·kg⁻¹. Lung doses due to the use of tobacco vary from 75 μSv·y⁻¹ to 600 μSv·y⁻¹.

INTRODUCTION

210Po belongs to the natural uranium-radium family; it is a naturally occurring radionuclide in the environment, and it is considered as one of the highly toxic radioisotopes¹. It is an α-emitter (T = 138.4 d), but in spite of its relatively short half-life, it is main-
Fig. 1. Routes of incorporation of $^{210}$Po in humans

...tained in the atmosphere due to longer lived precursors, such as $^{210}$Pb ($T = 22$ y).

As is shown in Fig. 1, some plants may concentrate $^{210}$Po and they constitute an important route of incorporation for man. Among these, manufactured products available in the market from the following species were analyzed:

- Yerba mate (Ilex paraguayensis)
- Tea (Thea sinensis)
- Coffee (Coffea arabica)
- Tobacco (Nicotiana tabacum)