

## Cancer mortality among Brazilian soybean agricultural workers

**Juliana Chrisman**, *ENSP/FIOCRUZ, Brazil*

**Dyana Balestieri**, *IESC/UFRRJ, Brazil*

**Rosalina Koifman**, *ENSP/FIOCRUZ, Brazil*

**Sergio Koifman**, *ENSP/FIOCRUZ, Brazil*

**Armando Meyer**, *IESC/UFRRJ, Brazil*

**Background and Aims:** Currently, Brazil is the largest consumer of pesticides in the world, and soybean crops are the main destination of this very intensive consumption of pesticides. In addition, Brazil is the second largest producer of soybean in the world. Although soybean production has been increasing over decades and is a major target of pesticide use in Brazil, few studies were devoted to investigate the health of Brazilian soybean agricultural workers.

**Methods:** Therefore, this study was designed to compare cancer mortality among agricultural workers living in regions of intensive production of soybean with that experienced by three reference populations: residents of the same area, but not agricultural workers; agricultural workers of regions not producing soybeans; and non-agricultural workers of areas not producing soybeans. To do so, mortality odds ratios (MOR) were calculated, stratified by sex and age, for several types of cancer, according to the Chapter II of International Classification of Diseases, 10th edition.

**Results:** Female agricultural workers living in regions of intensive production of soybeans had a higher risk to die by melanoma (MOR: 2.99, 95% CI 1.72 to 4.58) and esophageal cancer (MOR: 2.11, 95% CI 1.58 to 2.66), when compared to non-agricultural population of areas not producing soybeans. In addition, male agricultural workers were at higher risk to die by melanoma (MOR: 4.10, 95% CI: 3.32 to 5.08) and bladder cancer (MOR: 2.23, 95% CI: 1.88 -2.64), if compared with agricultural workers of areas not producing soybeans.

**Conclusions:** Results of the present study suggest that agricultural workers from regions of intensive production of soybean in Brazil maybe be at higher risk to die by specific cancers. It also indicates that this possible association should be further investigated.