

**Editorial**

Pesticides and Cancer

Usama Nihad Rifat, FRCS, FACS

Emeritus Professor of Urology, Iraqi Board for Medical Specializations, Baghdad, IRAQ

***Corresponding Author:** Usama Nihad Rifat, Emeritus Professor of Urology, Iraqi Board for Medical Specializations, Baghdad, IRAQ

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Pesticides that are applied to farms or yards can remain in the environment for longer than intended. They can remain in the dust and soil at least one year following the previous planting season [1]. Studies have analyzed the association between pesticide exposure and colon plus rectal cancer.

It was observed associations with bladder cancer risk for two imidazolinone herbicides, imazethapyr and imazaquin, which are aromatic amines [2].

In 2024 Researchers have identified 22 pesticides consistently associated with the incidence of prostate cancer in the United States, with four of the pesticides also linked with prostate cancer mortality. The findings are published by Wiley online in CANCER, a peer-reviewed journal of the American Cancer Society. The years 1997–2001 were assessed for pesticide use and 2011–2015 for prostate cancer outcomes.

Similarly, cases in 2002–2006 were studied for pesticide use and in 2016–2020 for outcomes. Among the 22 pesticides showing consistent direct associations with prostate cancer incidence across both time-based analyses, there were three that had previously been linked to prostate cancer, including 2,4-D, which is one of the most frequently used pesticides in the United States.

In 2024 Researchers have identified 22 pesticides consistently associated with the incidence of prostate cancer in the United States, with four of the pesticides also linked with prostate cancer mortality. The findings are published by Wiley online in CANCER, a peer-reviewed journal of the American Cancer Society. By building on these findings, we can advance our efforts to pinpoint risk factors for prostate cancer and work towards reducing the number of men affected by this disease.” [3].

Previous epidemiologic studies have linked farming to an increased risk of prostate cancer. Analyses of data from the Agricultural Health Study (AHS) revealed a significant excess of both PCa incidence and mortality. Exposure to specific individual or organochlorine (OC) and organophosphate (OP) insecticides have been linked to prostate cancer in multiple studies. Specifically, a previous evaluation reported increased risks of aggressive PCa with exposure to aldrin (OC) and other agents. Other studies

reported associations between increased risks of prostate cancer and chlordcone (OC) [4].

Furthermore cancer incidence including prostate cancer, occurred in tasks such as raising animals and handling stored grain [5]. Thus, eating more organic foods could help reduce exposure to pesticides and, consequently, potentially also reduce the risk of dangerous human diseases, although the exact link between disease incidence and reduced pesticide exposure is not well established [6].

Occupational exposures are a leading cause of bladder cancer, but occupational pesticide exposure has been little explored as a possible risk factor [2].

Collectively, pesticide exposure may be overlooked in organs carcinogenesis. Future studies with detailed pesticide information on specific active ingredients and those that explore risks are needed.

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