
Pesticide Risks Threaten Pakistan's Rice Exports — Urgent Reforms Needed

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Pakistan's rice sector — a pillar of rural livelihoods and a major source of foreign exchange — now faces growing international scrutiny due to rising pesticide residues and food-safety concerns.

Rice contributes 2.7% to agricultural value-addition and 0.6% to national GDP, with exports

exceeding USD 3.5 billion in FY24. With production reaching 9.9 million tonnes last year, the crop

remains vital for millions of farmers across Punjab and Sindh.

However, the expansion of rice cultivation has been accompanied by a surge in pest pressures.

Over 100 insect species attack the crop, including stem borers, planthoppers, leaf folders, and mites. To manage these pests, farmers often rely heavily on chemical pesticides—many of which are not approved for rice. Products such as chlorpyrifos, triazophos, carbendazim, imidacloprid, and tricyclazole are commonly used despite lacking rice-specific registration. Excessive dosages, incorrect mixing, and spraying close to harvest are widespread practices, largely due to limited farmer education and weak extension support.

These practices have led to increasing rejections of Pakistani rice shipments in the EU, UK, and US markets. In 2024, Pakistan recorded more EU alerts for pesticide residues than India, particularly in basmati consignments. The problem is worsened by mycotoxins (especially aflatoxin), caused by premature harvesting, slow drying, and inadequate storage. More than 90% of millers depend on sun-drying, which rarely brings moisture down to the safe 14–15% level within 24 hours—a critical requirement to prevent fungal contamination.

Weak linkages in the value chain further compound the problem. Millers often purchase paddy from unknown sources, with no record of crop management practices. The absence of contract farming legislation limits quality control and traceability. Meanwhile, some stockists avoid professional fumigation to reduce costs, increasing contamination risks.

Reforms are urgently needed. Experts recommend bold labeling on pesticides to indicate “Not for Rice Crop”, strict enforcement of pre-harvest intervals, large-scale farmer awareness campaigns, and government-supported financing for mechanical dryers. Stronger collaboration among REAP, extension departments, and research institutes is essential to safeguard Pakistan’s position in high-value export markets and ensure global confidence in its basmati heritage.