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Best Practices for Reducing Weed Seeds in U.S. Soybean Exports

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Soybeans are one of the United States' top exports. On average, we export more than 50 million metric tons of soy each year.

Weed seeds in soybean exports are a serious trade concern. If an importing country detects weed seeds, it may require additional inspections, treatment, or other measures. In severe cases, the country may reject shipments or close the market altogether.

By reducing seeds in soybean exports, U.S. soy is more competitive in the global marketplace. There are steps growers and U.S. grain elevators can take to reduce weed seeds in U.S. soybean exports.

The Systems Approach

The systems approach includes recommended best practices to reduce weed seeds in soybean shipments. APHIS worked with U.S. industry groups, other USDA agencies, and academia to develop the approach. It includes recommendations for integrated weed management, harvesting, and handling.

While the systems approach is voluntary, we encourage producers, handlers, and exporters to use the practices best for their operation and geographic area. This will reduce weed seeds in U.S. soybean exports and help shipments avoid costly delays. By participating in the systems approach, everyone along the supply chain can help maintain and enhance the value and safety of U.S. soybeans.

On the Farm

Weed Management

Develop a tailored weed management plan.

- Regularly check production areas to find weed species.
- Consider weed biology when selecting management controls.
- Include chemical, cultural, and mechanical controls.
- Regularly vary weed management practices to eliminate weeds, avoid development of herbicide resistance, and discourage buildup of one weed type.
- Work with Extension agents or crop advisers to design short- and long-term plans tailored to your crop rotation, your region, and the weed species in your fields.

Rotate crops and double-crop.

- Use two or more crops in a rotation to lower weed densities, increase crop yields, and improve soil quality.
- Select rotational crops sprayed with herbicides with different modes of action to minimize the evolution and spread of herbicide-resistant weeds.
- Consider double-cropping. The residue from the first crop helps suppress weeds, reduce erosion, and limit pest populations while the second crop is growing. This approach can increase field yield and reduce overall herbicide applications.

Use cover crops to increase yield and suppress weeds.

- Select a cover crop suitable for your region.
- Remove the cover crop just before planting soybeans (as early as 1 month or as late as 5 days before).
- Consider using a cover crop between soybean rows.

Diversify herbicide use.

- Use a variety of herbicides with different modes of action.
- Use a combination of pre- and post-emergence herbicides with residual effects that last the entire crop season.
- Talk with Extension agents and crop advisers to diversify your herbicide use, identify the appropriate tank mixes, and tailor the modes of action to your specific needs.

Manage weeds in field borders.

- Control weeds in field borders, including ditches, sloughs, and along access roads.
- Frequently mow the perimeter to prevent weed reproduction and create a barrier between the field and outlying areas.

Control late-season weeds.

- Consider using a preharvest herbicide or manual weed removal to control late-season weeds.
- Consider incorporating tillage when other weed control measures are ineffective or not feasible.

Planting

- Start with clean seed.
- Avoid planting soybeans in fields with a history of heavy weed infestations until the weeds are under control.
- Plant soybeans in narrow rows to allow plants to quickly form a closed canopy that doesn't allow room for weeds.
- Plant early in the season (late April to early May in the north; mid-April to mid-June in the south, depending on variety) to help plants better compete against weeds and increase yields.
- Use soybean seed inoculated with nitrogen-fixing bacteria.
- Adjust irrigation timing and amount to minimize weeds.

Harvesting

- Avoid harvesting soybeans growing in high-density weed patches.
- Adjust combine settings to remove weed seeds.
- Regularly clean storage bins, augurs and legs, transport vehicles, and farm equipment to prevent weed spread and avoid contaminating soybean with other grains, especially corn.
- Destroy weed seeds separated from grain or left in the field to keep them from entering the soil seed bank.

At the Grain Elevator

Handling

- Examine soybeans upon arrival for weed seeds, especially ragweed, Johnsongrass, cocklebur, and pigweed.
- Consider separating weed seeds from soybeans through mechanical cleaning or other means.
- Ensure bins, belts, and scales are free of other grains, especially corn, which some countries consider a noxious weed.

USDA's Role

USDA and U.S. trade associations monitor weed seed and foreign material content in soybeans to make sure the systems approach is working. Monitoring includes:

- Periodically conduct a national survey at country and export elevators.
- Analyze data to identify opportunities for improving the systems approach and share with industry and producers.

USDA completed taking samples as part of the national survey. We are analyzing the data and developing recommendations to improve the systems approach.

We also work closely with foreign trading partners to ensure uninterrupted trade of U.S. soybeans. This includes bilateral cooperation between USDA and foreign officials to address any technical issues affecting the entry of U.S. soybeans.