

Grower Services

NIP 37 Yanco Avenue Leeton NSW 2705

Locked Bag 2 Leeton NSW 2705

T 1800 654 557 or 02 6953 0436

F 02 6953 7208 E growerservices@sunrice.com.au



FOOD SAFETY GUIDELINES – 2016/17 Season

REDUCING FOREIGN MATERIAL CONTAMINATION OF PADDY

The food safety (contamination) risks for paddy can be divided into three groups:-

- Physical - pieces of glass, metal, plastic, stones, animal matter; soil, foreign grain or weed seeds
- Chemical - residues of agricultural pesticides, baits or fumigants
- Biological - toxins from mouldy grain

If any of these materials are found in packaged rice, it can be very costly to the industry in both monetary terms and reduced market access. It takes time to build a reputation for a quality food product but it can be quickly destroyed with one widely publicised contamination incident. Producing quality rice on your farm is the first step in the supply chain to the consumer. All parts of the supply chain must be equally careful to avoid foreign matter contamination. Storage, drying, processing and distribution stages also have procedures to eliminate these materials. Most on-farm food safety risks occur during harvest, but a responsible attitude around the farm all year can reduce some risks.

You need to know what the major concerns are so you can assess and minimise the risks on your own farm.

1. Glass contamination can occur from a number of sources.

- Any kitchen waste with glass should be quickly buried in a place reserved for such material.
- All glass and plastic containers used in the workshop or in the servicing of equipment should be handled with care and kept in a safe place.
- Glass lens covers on vehicle and machinery lights should be inspected regularly and replaced if cracked. Covering lenses with plastic film can prevent glass loss in the event of a breakage.
- Overhead lights in sheds can break on impact with headers or augers. Beware of such lights.
- Food or drink in disposable glass containers should not be consumed in the farm area where crops are grown and machinery is operated. Convey this policy to duck shooters.
- SunRice storage, handling and processing sites are zoned "glass free" and farm areas (as distinct from the household) could follow the example.
- Farms adjoining main roads are at risk of travellers throwing bottles into canals and drains. These bottles can float and may enter a rice paddock on your farm or further down the irrigation system. Collect and dispose of any bottles found in such areas.

2. Metal objects can contaminate paddy and their presence must be avoided.

- Ferrous metals can be removed during processing by strategically placed magnets but heavy contamination levels can overload the system. Non ferrous metal is more difficult to detect and remove.
- Preventative maintenance, regular servicing of harvest machinery and being careful with small tools and parts will minimise paddy contamination by metal.

3. Gravel & stones are serious contaminants.

- Roads (especially shoulders) allow loose stones and gravel to lodge in tyre treads. Tyres with a block or bar tread pattern will collect less gravel.
- Installation of corrugated approaches to intake pits can dislodge stones by flexing tyre walls.
- Gravel in paddy can also occur from trucks previously used for hauling road materials. This gravel contamination (as distinct from the road source) is easily avoided by cleaning truck bins.

4. Foreign grain, weed seeds and fertiliser contamination of paddy is all too common.

- Foreign grain results from residues left in headers, trucks, field bins and augers. Trucks, bins and augers are fairly easy to clean. Headers are more difficult but every effort must be made to clean the machine prior to harvest. Remove any covers from elevators or cross augers; remove the sieves and use an air compressor to dislodge grain / trash from the less accessible places. Run the machine for a short time and then repeat the process with a high pressure water cleaner or a fire fighter pump. Again run the header for a short time before refitting the covers and sieves. A header clean-out after harvest of another grain like maize, soybean or wheat can take about an hour to do satisfactorily. Cleaning equipment between different rice varieties is also needed.
- Thorough cleaning of truck bins is essential and contractor trucks must be checked at the commencement of each day. A suitable broom should be kept on hand, preferably in the cab, to sweep the truck bin. The **delivery chit requires the truck driver sign** that "the bin was clean before loading with paddy".
- Weed seeds come from plants on the banks and field edges. Practice good crop hygiene and spray or chip any weeds from such areas.
- Fertiliser contamination occurs through improperly cleaned handling equipment such as field bins, silos, augers and more particularly trucks. Contractor trucks alternating between rice and fertiliser haulage pose a special risk. Urea is highly toxic to humans and the granule size, shape and colour is similar to rice.

5. **Mud and soil can contaminate paddy in two ways.**

- Mud can collect in chaser bin tyre treads and be flung into the bin when travelling to unload. Adding a mudguard to the bins may prevent this occurring. This type of mud often remains as larger lumps and may be removed before milling.
- Mud can also be picked up from the paddock when harvesting lodged crops. When the mud or soil passes through the machine some is reduced to the size of rice grains and is referred to as mud balls. Where mud balls contaminate brown rice, it is both expensive and slow to remove by colour sorting.
- Avoid lodging by good management practices. Use a ridging roller and an appropriate amount of nitrogen fertiliser, applied at the correct time. Drain the crop at the optimum time to ensure it finishes without moisture stress and is not predisposed to lodging.
- Where lodging is unavoidable, careful adjustment and operation of the header can minimise the amount of soil entering the front.

6. **Animal matter – skin, hair, bones and faecal matter can contaminate paddy.**

- Animal material can either originate from the remains of livestock run on the farm, such as sheep or cattle; from birds such as ducks or vermin such as foxes, or rats and mice.
- Where stock loss by death occurs, dispose of the carcass in a safe area. Burn or bury. Do not leave carcasses in pasture paddock as the remains could contaminate paddy in future years.
- Where ducks are legitimately controlled by shooting, dispose of the carcass.
- Rats and mice are attracted to grain and machinery storage areas. Clean up seed and grain spills to eliminate food sources. Where an infestation is found, bait at designated stations. Clean all harvest machinery after harvest completion and eliminate the attraction to vermin.

7. **Chemical contamination of paddy rice is closely monitored by domestic and export markets.**

- Agricultural chemicals, registered for use on rice, that are stored and used on-farm should be managed in accordance with the **WorkCover NSW Code of Practice for the safe use and storage of chemicals in Agriculture** and relevant legislation.
- Terrorism is a risk we all need to be vigilant of. Chemicals, biological and radio-nuclear materials could all be used in deliberate contamination of food for human consumption. Rice producers need to ensure there is no opportunity for these materials to deliberately or accidentally contaminate paddy rice. Be alert and report any such risks to Grower Services (1800 654 557) **before** delivering paddy.
- Most chemicals are applied to rice early in the crop life and residue risks are extremely small but consumers need assurance their food is safe.

- Only use pesticides registered for use on rice and follow the label directions.
- Any application error of agricultural pesticide could cause the maximum residue level to be exceeded and jeopardise the entire industry.
- Armyworm control made just prior to harvest is a risk if withholding periods are not met and growers must advise SunRice before delivery. Such paddy can then be segregated for the required period. Armyworm control is generally discouraged unless their numbers are certain to cause economic damage.
- Rice growers making chemical applications should be accredited under an **approved Chemical Users Training Program**. Aerial contractors must also be accredited under their own approved programs.
- All herbicide and insecticide applications made to individual crops must be recorded as per the Pesticide Act administered by the EPA. Forms for these records are freely available from a number of sources. All quality assurance programs in agricultural industries require permanent records of chemical applications and it could also protect you in the unlikely event of a future damages claim made by an external party.
- All growers must complete the SunRice Pre-Delivery Declaration for agricultural chemical usage on their rice crops. This declaration is needed to satisfy the requirements of our major markets. It confirms that all products used were registered for rice; that label directions were followed and that the applications have been recorded.

8. **Mouldy & stackburnt grain result from delays to deliver high moisture rice.**

- Stackburnt rice poses a health and safety risk when moist paddy overheats and encourages fungal and bacterial growth. Stackburnt rice produces yellow grains with an unpleasant odour which taint good quality rice and make it unfit for human consumption. Fungi can produce poisonous aflatoxins in overheated paddy and, if detected, will be rejected by importers.
- Harvested paddy must be delivered as soon as possible, and not be held in the header grain bin, field bin or truck. Special attention should be given to cleaning out large “mother bins” as any grain remaining from day to day will stackburn and contaminate more rice. Failure to advise of stackburnt rice does carry penalties.

The sources of foreign material contamination of paddy need to be understood by the farm owner, the harvest contractor and all employees involved in the harvesting and cartage of the crop. These guidelines need to be discussed prior to, and acted on, during the harvest operation. The SunRice Pre-Delivery Declaration confirming compliance with these guidelines must be signed by the grower and provided to SunRice before the first delivery of the season. If a harvest contractor is involved, a grower has the option to use the RGA “Rice Harvesting and Cartage Agreement” to address the SunRice declaration and chain of responsibility legislation.