



RECEIPT, STORAGE, & PEST MANAGEMENT BEST PRACTICES

Valued Customer,

We hope you'll find this outline of best practices for receipt, product storage and pest management useful. We want to help you receive and store your ingredients in the best possible condition, and to continue to trust RahrBSG with your ingredients needs.

Sincerely,
The RahrBSG Team

rahrbsg.com
1.800.374.2739

General receipt, storage and pest management questions or concerns

RahrBSG is committed to being a resource for customers beyond simply delivering high quality ingredients; we're here to help you should you have questions or concerns regarding your existing receipt, storage and pest management programs.

Please reach out to your Customer Service Representative or Sales Manager who will be happy to coordinate getting you in touch with the people or information that can help address your needs.

Receiving

Before signing the shipment Bill of Lading, inspect the delivery:

- The quantity on the packing slip should match the physical quantity delivered
- Look for damaged or burst packaging; this includes leaking liquid containers or grain packaging that is torn, ripped or coming apart at the seams
- Look for pests, or evidence of pests, specifically rodents and stored product pests using a bright light to aid inspection. Inspect inside pallet, chimney, and between bags.
 - Rodent evidence includes droppings, gnawed bags, and urine.
 - For stored product pests, specifically inspect the folds in the bags as well as pallet shrink wrap. Store product pests can be as small as only 2mm in length, so a close inspection is important.

If any problems arise:

First, note any deficiencies on the Bill of Lading before signing.

- Include statements like “Damaged Product,” “Leaking carton,” “3 bags torn,” “Damaged Shipment,” etc.
 - This documentation step is critical should the deficiency be related to the carrier as well as for having a record indicating the deficiency was present upon receipt and not a result of conditions at your facility.,
- Take photos and/or samples if possible.
 - “A picture says a thousand words,” and our investigation team can use the photos to determine root cause and design corrective and/or preventive action. The higher resolution the better. For insect concerns, please take a very close-up photo to aid in identification.
 - The investigation team may request samples obtained of pests, foreign materials, damaged product packaging or other issues be shipped to our technical center for further evaluation.
- Finally, contact your RahrBSG customer service representative or Sales Manager ASAP to report the issue, so they can create a case for the deficiency and discuss next steps.

Storage Requirements

Grain:

- Store away from areas or equipment that produce heat and/or moisture, in a clean dry area that undergoes regular cleaning and sanitation
- Best practice, for many practical reasons, is to limit storage time to less than 180 days for whole kernel malted product and less than 90 days for sensitive products (milled, rolled, flaked, torrefied, puffed, unmalted grains).
 - When sensitive product is going to sit for longer than 30 days during summer months, we recommend storage in a cooler. When product is going to sit for longer than 30 days we recommend rotation of stock, inspection of pallet, product, and surrounding areas, FIFO and a strong IPM program to ensure the integrity of the product remains intact.
- Keep milled partial bags of grain in separate covered containers or totes.

Hops:

- Store in a cooler as soon as practical after receipt.

Brewing aids and other special ingredients:

- May have specific storage conditions requirements such as refrigeration; reference <https://bsgcraft.com> if you have questions regarding the storage conditions for ingredients you purchase.

Pest Management

Background:

Many of the ingredients RahrBSG distributes are food items, most notably grains, and require specialized pest management practices. Rodents and Stored Product Pests are two major pest categories that can affect stored food items.

Examples:

- Rodents include mice, Norway rats, and roof rats
- Stored Product Pests (SPPs) include weevils, moths, grain beetles, flour beetles and others; they feed and breed on or in stored food products.
 - *Eggs of SPPs may last for up to 2 years in the environment or on food products
 - *Variable length of lifecycle depending on conditions. Egg-Adult-Egg can be anywhere from 20-200+ days
 - *Lifecycle stages of a SPP are: Egg --> Larva --> Pupa --> Adult
 - *Cannot live or breed in low moisture environments, typically that means in or on products <8% moisture

It is important to note that SPPs are inherent to agricultural ingredients, including malted ingredients, because SPPs exist in the environment where ingredients are grown. There are steps in malting or other grain preparation processes that greatly reduce the amount of egg or other lifecycle stages of SPPs but they cannot be completely removed.

This is important to note because eggs laid on barley, wheat or other ingredients in the field are not always completely removed or destroyed and conditions in storage should be controlled so that they are not favorable for dormant eggs to develop into larvae and eventually adults.

The low moisture content of whole kernel malted grain makes it more resistant to harboring SPP activity than sensitive products like unmalted, milled, flaked, rolled, torried, puffed or other processed grains; more care should be taken when handling sensitive products and storage times should be minimized.

Your facility may be located in an area where certain SPPs are inherent to the local environment. Indian Meal Moths, a flying SPP, are inherent to the environment in San Diego, for example. Exclusion practices, such as keeping doors closed and screening all ventilation, are the best ways to ensure SPPs inherent to your local environment don't infest your facility.

Integrated Pest Management

RahrBSG works closely with several pest management service providers to implement what is referred to as Integrated Pest Management (IPM) programs in our facilities. IPM is a holistic approach to pest management that includes proactive monitoring for pests, excluding pests from entering from outside, eliminating conditions inside that can be harborage for pests, keeping a clean and sanitary facility free of dust and loose food items, and strategies in place to regain control when pest activity is observed.

Pest management service providers that are good partners should be knowledgeable about SPPs and strategies to proactively monitor for their presence and regain control when they're observed. Pheromone monitors (dome, hanging and others) are placed throughout a facility and checked regularly for activity. Conditions and product in the vicinity should be inspected if a monitor is found to be attracting SPPs; often times, harborage or affected products can be identified and eliminated before pests spread and affect other areas or products. Control methods for SPPs are different than for ants or other insects, so be wary of technicians that reference control methods that are specific to ants or other common insects, such as boric acid. It should be noted, removing pest affected product may not be eliminating the issue because pests that have left the product and are now in your facility may find harborage and continue to live and breed undetected until they find favorable conditions and cause secondary infestations.

If you notice pest activity on or in a product that RahrBSG has delivered to you, please contact a customer services representative or Sales Manager ASAP but no later than 24 hours to report the issue and perform the following:

- Take photos and/or samples if possible.
 - “A picture says a thousand words”, and the RahrBSG investigation team can use the photos to obtain a positive identification of the pest and design corrective and/or preventive action.
 - The RahrBSG investigation team may request samples obtained of pests shipped to our technical center for further evaluation.
- Secure pest affected product in a location away from unaffected product
 - A cooler, if available, renders SPPs very sluggish and will prevent pest from spreading to other products or areas in your facility
 - If the product is “crawling” obtain pictures and move the product outside.



















Your Customer Service Representative or Sales Manager will provide a pest observation questionnaire to be completed and returned no later than 24 hours after receipt which will consolidate all the relevant information about the case. Pest cases require special care and we greatly appreciate thorough responses. Information consolidated on the questionnaire is critical to our root cause investigation and designing corrective and/or preventive action.

-Your Customer Service Representative or Sales Manager will work with our investigation team to arrange for one of our pest management service providers to visit your facility, at our cost, to aid in the identification of the pest and provide a second opinion for potential control strategies in addition to what your pest management service provider can suggest.

Identification and Mitigation:

The Canadian Grain Commission insect identification keys are a great tool to help you identify pests observed in your facility.

Below is a compiled list of the top 5 stored product pests that affect the majority of RahrBSG products. The list includes a picture, description, and more important information that you can use to help identify and prevent these pests. A more complete list of common SPPs (2.9.9.500F – STORGARD Insect Identification Poster) can be requested from RahrBSG at any time if needed.

Name	Photo	Size (mm)	Color	Typical Life Cycle	Favorite Food	Attracted to Light	Geographic Distribution	Penetrate Packages	Product Recommendation
Indianmeal Moth <i>Plodia interpunctella</i>		8-10	Copper red & silver gray	28-35 days	Broken or processed grain	Yes	General	Yes, larvae only	  
Cigarette Beetle <i>Lasioderma serricorne</i>		2-3	Reddish brown	40-70 days	General, tobacco, and spices	Yes	General	Yes	   
Confused Flour Beetle <i>Tribolium confusum</i>		3.5	Reddish brown	60-90 days	Flour, meal, and broken grain	Yes	Northern	Weak	  
Red Flour Beetle <i>Tribolium castaneum</i>		3.5	Reddish brown	60-90 days	Flour, meal, and broken grain	Yes	Southern	Weak	  
Sawtoothed Grain Beetle <i>Oryzaephilus surinamensis</i>		2-3	Brown	21-28 days	Flour and meal	Yes	General	Yes	