Below is a list of food loss prevention ideas for manufacturers. Please use this document as a guide for potential activities that you can implement or feel free to add your own activities to the list.

Join the US EPA's Food Recovery Challenge! : http://www.epa.gov/smm

☐ **Perform food specific waste audit**. This is your essential starting point for all other activities. A waste audit will tell you what is being thrown out and why. Pick a day and be there at the waste bin with a few volunteers, buckets, a log sheet, and a weight scale and record:

   a.   What is being thrown out,
   b.   Weight or number of items
   c.   The reason the food is being disposed if known
   d.   The expiration date of the product when applicable and
   e.   Whether the food was still wholesome/edible before being thrown out.

With the information you gain from this exercise, you can then adjust purchasing estimates or shipment sizes accordingly. Contact your EPA representative for log sheets, signs, and other tools.   Reduce order quantities of low sold or otherwise tossed items. Take an inventory ranking your most wasted to least wasted items and consider changing procedures to minimize loss. Some example resources:

http://www2.epa.gov/sites/production/files/2015-08/foodwaste_audit_tool.xlsm

http://www2.epa.gov/sites/production/files/2015-08/documents/r5_fd_wste_guidebk_020615.pdf

☐ **Consider using sacrificial tears in multi packs or barcoding each individual item in a multi pack.** Sacrificial tears are perforations, like tearing a check out of a checkbook, that allows a package to tear a certain way if the package undergoes damage so as not to damage the products themselves. This averts a situation where individual uncoded items cannot be sold if a multipack tears and fails.   **- http://www.igd.com/our-expertise/Supply-chain/WastePrevention/16723/Tesco-and-Princes-Multipack-canned-tomato/**

☐ **Consider using oxygen scavenging packets to extend shelf life.** These are small packets that remove oxygen from inside the package to extend the life of the product. **http://www.bakeryonline.com/doc/an-overview-of-oxygen-scavenging-packaging-an-0002**

☐ **Re-align orders for each group vs. planned estimate by reviewing waste, sell-outs and progressive sales**

☐ **Producing a product from foods that would otherwise be disposed: http://www.rubiesintherubble.com/our-mission/**

☐ **Periodically search for secondary markets for byproducts.** What is currently a waste could be a commodity for another business. Devote time in your schedule to advertise and periodically seek out those that can make use of your byproduct.   Ex: Use sausage ends in stuffing.

☐ **Promote short supply chains. Look for more local customers, thus reducing the distance and time the food has to travel.** This can both increase the freshness of food and also reduces the greenhouse gases generated from transport of food.

☐ **Review stock requirements at product group level instead of basing estimates on previous days sales and weather forecasts.**

☐ **Build ramps for large liquid dispenser containers/tanks, so the liquid drains toward the tap outlet to reduce product left in the container when thrown away.**

☐ **Increase regular meetings between retailer and supplier with reducing food waste as the main topic.**

☐ **Review current buying and forecasting process.**

☐ **Remove low volume lines.   Perform a true cost analysis.**

☐ **Ask your retailers if minimum order quantities are causing them to waste due to not being able to sell all the product before the end of its life and adjust minimum order quantities or remove the line accordingly.**

☐ **Experiment with introducing additional price reduction points in the day's trading.**

☐ **Consider moving from stock-held to stock-less. Example: currently product is delivered into four depots twice a week and stock-held for store picking. Move to same day stock into and out of depot.**

☐ **Eliminate "rounding rules" for order estimates.**

☐ **Send order estimates more frequently to better align production planning with order timings.** Example: send order estimates twice a week instead of once a week.

☐ **Reduce case sizes for perishable goods:** Examples: 18 kg banana boxes were too large for convenience stores, using 12kg banana boxes would reduce waste by 90% according to one study. Smaller bags of salad at

convenience stores resulted in 80% reduction in waste in some instances.
http://www.wrap.org.uk/sites/files/wrap/Waste%20prevention%20case%20studies_0.pdf

☐ **Offer different portion sizes. Make sure labels for different proportion sizes do not look similar.** Example: It may take longer for a customer to figure out which product is the 3 meal they need vs the two meal.

☐ **Improve readability of labels (color, font) and packages for consumers and stores to reduce confusion and include only store relevant abbreviations.** Customers might actually buy the wrong thing.

☐ **Promote short supply chains. Look for more local suppliers, thus reducing the distance and time the food has to travel.** http://www.nrdc.org/globalWarming/files/eatgreenfs_feb2010.pdf

☐ **Clear date labelling and date encoding to cause less confusion to customer.** Confusion over food date labels is a major source of food waste. Consider working with your supply chain to clearly label or define the difference between safety-based and quality-based dates. Some options might include:
   a. Make "sell by" dates invisible to the consumer,
   b. Use more "freeze by" dates where applicable so the customer knows they have that option,
   c. Remove "best before" or other quality dates from shelf-stable, non-perishable foods for which safety is not a concern: this will reduce waste of these products and increase the weight given to labels placed on products that do have safety concerns, and
   d. Make sure all dates have a description, not just have a date. This will also help improve your bottom line by boosting customer satisfaction, wasting less by holding on to food longer and donating with more confidence.

   "Misinterpretation of date labels is one of the key factors contributing to food waste" – NRDC .

   http://www.nrdc.org/food/expiration-dates.asp

☐ **Ensure buying and forecasting process shows whether products are consistently being under ordered or over ordered.**

☐ **Ensure orders are shown by line.** Example: a company may sell different types of sandwiches from the same supplier, however one type of sandwich might be more popular than another. Instead of ordering the same number of each type of sandwich, track each type so you know exactly how many of each type you need to restock.

☐ **Choose ingredients that use less water to produce.** An example resource that shows how much water each food takes to produce can be found here: http://waterfootprint.org/en/resources/interactive-tools/product-gallery/

☐ **Find secondary uses/markets for trimming and peels, and other byproducts: ex: use fish waste to create omega rich fish chips.**

☐ **Design filters to capture more product to rework back into process.**

☐ **Use ingredients associated with less deforestation and less greenhouse gas pollution**.
http://mitigation2014.org/

☐ **Send cuts/ends or other unused product back to the supplier.** This can encourage the supplier to redesign or reuse this material for other products. Ex: send ham ends back to the supplier.

☐ **Loosen size requirements and other strictly cosmetic standards to make use of otherwise disposed of ingredients.** Tip: brand product as more environmentally friendly by wasting less food.
http://www.news10.net/story/money/consumer/2015/06/19/raleys-to-sell-imperfect-produce-for-a-discount/29009393/
https://www.youtube.com/watch?v=vd6EjqL-GEo
http://www.imperfectproduce.com/home.php
http://www.endfoodwaste.org/ugly-fruit---veg.html
https://vimeo.com/98441820

☐ **Make food waste reduction a key performance indicator in operations, supply chain and employees;**

☐ **Ask for feedback from staff on how to reduce food waste.**

☐ **Redesign processing machines to minimize trim and other cut offs.**

☐ **Consider using ultra-hermetic bags for rice** that are water resistant and gas tight to prevent pests and fungus.
http://www.fao.org/3/a-i3989e.pdf Case Study #3, page 21.

☐ **Other idea: _____**

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Resources:

http://www.wrap.org.uk/sites/files/wrap/WRAP_IGD_supply_chain_report.pdf
http://www.nrdc.org/food/files/wasted-food-ip.pdf

This draft is under review.

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