

Checklist with best practices for waste reduction and/or sales increase for perishables.

Projects with a primary focus on SUPPLY management

THE STORE	
<ul style="list-style-type: none"> Store operations management 	Create awareness among re-stockers of the shelves on importance of waste reduction, e.g. by giving them frequent feedback on actual waste in euro's
	Ensure sufficient workforce is available for timely re-stocking of the shelves
	Register the oldest expiration date per SKU and stimulate demand for those items approaching their expiration date and having large excess inventory.
	Introduce easy to understand KPI's related to waste, set realistic targets and give incentives when targets are met
	Educate and train store management and employees
	Ensure that execution of promotions in every store is aligned with promotion conditions (esp. display) as used in forecasting
	Ensure every store executes the markdown strategy perfectly
	Introduce in-store final processing (e.g. bake-off or butcher)
<ul style="list-style-type: none"> Shelf replenishment 	Put oldest items in front
	Make shelves large enough to prevent OOS
	Align the actual number of facings on the shelves (not necessarily equal to planogram) with demand
	Create a well-organised and accessible backroom
	Use easy-access and handling-friendly crates or boxes (e.g. plastic crates with standardised sizes)
<ul style="list-style-type: none"> Replenishment logic 	Supply goods for promotions in two waves and use early sales information during promotion for second wave
	Use age-based replenishment logic
	Allow flexible lot-sizing for items with high waste
	Apply a new replenishment logic using inventory and order up to levels at <i>aggregate</i> level for categories with high substitution willingness (i.e. first determining the aggregate desired number of products for the entire product category and then breaking it down to the SKUs) (Van Woensel et al., 2007)
<ul style="list-style-type: none"> Case pack size 	Increase inventory, sales and supply data accuracy Optimize case pack size making trade-off between handling costs and waste
<ul style="list-style-type: none"> Minimum stock 	Optimize safety stock and commercial display stock balancing customer service and waste
	Differentiate target service levels for items with long and short shelf life

	Differentiate target service levels for items with high and low average demand for categories with high substitution willingness (Van Donselaar et al., 2006)
	Align customer service definitions in Management Report Systems and in Replenishment Systems
	Timely reduce safety stocks for items near phasing-out or near end-of-season
THE SUPPLY CHAIN	
<ul style="list-style-type: none"> Supply Chain 	Discuss options for higher shelf life with current supplier
	Select new supplier with flexible production, small leadtime and high shelf life
	Educate and reward buyers on waste reduction
	Apply Cross-docking (Fernie and Sparks, 2009)
	Increase delivery frequency (e.g. by combining fresh and ambient products in one truck or use retail DC's instead of direct delivery by suppliers)
	Pick orders in the DC during the night
	Optimize the balance between the target service levels for the DC's and the stores and optimize the minimum shelf life left for the store when the product leaves the DC
	Use different ingredients or a different production technology having a positive impact on the image of freshness and the shelf life
	Use innovative packaging which increases the shelf life
	Cooperate with supplier to exchange operational data (inventory, forecast, actual sales) and KPI's to align production at suppliers with demand
	Apply VMI (vendor managed inventories)
	Apply Supply Chain Synchronisation (Van der Vlist and Broekmeulen, 2006) and push the majority of the inventory downstream as soon as it becomes available and storage space is available downstream

Projects with a primary focus on DEMAND management

<ul style="list-style-type: none"> Increase demand 	Review assortment and eliminate bleeders, thereby increasing demand for substitutes
	Stimulate sales for slowmovers through better information to consumers (e.g. explaining benefits of organic food)
	Offer bags with damaged or inglorious food at discounted prices
<ul style="list-style-type: none"> Markdown strategy 	Evaluate benefits and disadvantages of markdowns on items which approach their sell-by-date
	Only markdown if items would not be sold otherwise (based on actual inventory and demand forecast information)
	Optimize the timing and the depth of the markdown

• Change withdrawal behavior	Reduce space between shelves
	Reduce number of batches (with different shelf life) on the shelf
	Educate consumers on differences between sell by dates, use by dates and best before dates
	Inform consumers on possibilities with inglorious food
• Reduce demand uncertainty	Increase average demand per SKU (see above)
	Apply Every Day Low Price Strategy
• Reduce demand dynamics	Smooth weekpattern, e.g. by having special promotions on days with low traffic
	Give additional stimulus to sales during phasing-in or –out of product (extra promotion, taste for free, reduced prices)
• Improve demand forecasting	Use different forecasting techniques for items in different situation (whether item is regular, on promotion, phasing-in or out, with trend and/or with seasonal pattern)
	Detect trends and/or seasonal patterns when forecasting demand (e.g. Gardner and McKenzie, 1988) and if necessary apply different forecasting parameters
	Remove promotional sales data from times series when forecasting regular sales (also when only selected stores prolong the promotion to avoid waste)
• Promotion management	Apply Every Day Low Price Strategy (EDLP)
	Investigate substitution effects and reduce forecasts for items facing cannibalisation effects
	Avoid multi-consumer-unit offers like ‘2 for 1’
• Change planograms/displays	Use alternative ways to display items (partly fake items with smaller amount of real items) or using pictures or multi-media in case of out-of-stock to convey the perception of large choice and abundant inventory to consumers
	Only use multiple facings for fastmoving items
	Improve storage conditions within store (install chilled cabinets with transparent doors)
	Change merchandising policies from “Pile ‘em high” to new, store-specific merchandising policies
• Assortment	Carry a dynamic assortment for the slowmovers/specialties based on the production schedule of the supplier
	Remove bleeders or replace them by new items
	Add items to assortment which use other items with ‘close to sell by date’ as ingredients (e.g. fresh soups) or consume on the premises like in foodmarkets
	Educate and reward category managers on waste reduction
	Align assortment and/or planograms with average demand for individual stores or groups of stores
	Offer smaller consumer units

Table 1. Checklist for retailers on improvement opportunities to reduce waste and/or increase sales.