



ZMANJŠEVANJE IZGUB IN ODPADNE HRANE ZA VSE TIPE GOSPODINJSTEV

—

REDUCING FOOD WASTE AND LOSSES FOR ALL TYPES OF HOUSEHOLDS

maj 2025
projekt sodelovanja LAS Manj je več

May 2025
"Less is More" – LEADER Cooperation Project



Evropski kmetijski sklad za razvoj podeželja - Evropa investira v podeželje

O projektu

Projekt Manj je več je bil odobren v okviru podukrepa 19.3 Programa razvoja podeželja 2014–2020. Gre za sodelovanje petih slovenskih lokalnih akcijskih skupin in enega tujega partnerja iz Irske. Glavni cilj projekta je zmanjševanje količin odpadne hrane in plastičnih odpadkov ter izboljšanje kakovosti tal z vidika vsebnosti humusa. S projektom prispevamo k večji okoljski ozaveščenosti, trajnostni pridelavi hrane in aktivnemu vključevanju skupnosti. Ta brošura je namenjena vsem gospodinjstvom – ne glede na velikost, lokacijo ali življenjski slog – in ponuja praktične nasvete ter preverjene rešitve za odgovorno ravnanje s hrano.

About project

The project Less is More was approved under sub-measure 19.3 of the Rural Development Programme 2014–2020. It involves the cooperation of five Slovenian Local Action Groups and one international partner from Ireland. The project's primary goal is to reduce food and plastic waste and improve soil quality by increasing humus content. Through this project, we aim to raise environmental awareness, promote sustainable food production, and encourage active community involvement. This brochure is intended for all types of households – regardless of their size, location, or lifestyle – and offers practical advice and proven solutions for more responsible food management.

Kazalo

O projektu

1 Uvod

2 Pomen zmanjševanja odpadne hrane

3 Dejavniki nastajanja izgub in odpadne hrane

3.1 Nastajanje izgub in odpadne hrane v prehranski verigi

3.2 Nastajanje izgub in odpadne hrane v gospodinjstvih

4 Strateški cilji zmanjševanja izgub hrane

5 Aktivnosti za zmanjšanje izgub hrane in količine odpadne hrane do leta 2030

5.1 Sistematični ukrepi

5.2 Donacije presežkov hrane

6 Ukrepi v kmetijstvu

7 Praktični napotki za zmanjšanje odpadne hrane v gospodinjstvih

7.1 Načrtovanje nakupov in priprave obrokov

7.2 Shranjevanje hrane in pravilno rokovanje z živili

7.3 Zamrzovanje hrane

7.4 Pravilno ravnanje s sadjem in zelenjavo

7.5 Pravilno shranjevanje živil v hladilniku

7.6 Dodatni napotki shranjevanja živil

7.7 Kompostiranje v gospodinjstvu

8 Zaključek

Contents

About project

1 Introduction

2 The importance of reducing waste

3 Drivers of food waste and wastage

3.1 Food loss and waste in the food chain

3.2 Generation of losses and food waste in households

4 Strategic objectives to reduce food losses

5 Actions to reduce food loss and waste by 2030

5.1 Systematic measures

5.2 Donations of surplus food

6 Actions in agriculture

7 Practical tips to reduce food waste in households

7.1 Planning purchases and meal preparation

7.2 Food storage and proper handling

7.3 Freezing food

7.4 Proper handling of fruit and vegetables

7.5 Proper storage of food in the fridge

7.6 Additional guidance on the storage of foodstuffs

7.7 Household composting

8 Conclusion

1 Uvod

Vsako leto se po svetu zavrže ogromne količine hrane – pogosto še povsem užitne. To ne pomeni le zapravljanja denarja, temveč tudi izgubo dragocenih naravnih virov, energije in truda. Odpadna hrana prispeva k onesnaževanju okolja in podnebnim spremembam, hkrati pa nas opozarja na neravnovesje v prehranskem sistemu.

Namen tega dokumenta je ozaveščanje o težavi in ponudba konkretnih rešitev za zmanjšanje izgub in odpadne hrane na vseh ravneh – od kmetijstva do domače kuhinje. V tej brošuri boste našli praktične nasvete, kako lahko sami pripomorete k zmanjšanju količin odpadne hrane.

2 Pomen zmanjševanja odpadne hrane

Zmanjševanje odpadne hrane ima velik pomen tako z okoljskega kot tudi z ekonomskega vidika. Po podatkih Svetovne organizacije za prehrano (FAO) se na svetovni ravni zavrže kar tretjina vse proizvedene hrane, kar pomeni ogromne izgube surovin, energije in denarja. Do zavržkov pogosto prihaja zaradi neustreznega skladiščenja, slabe organizacije in pomanjkljivega načrtovanja prehrane. Gre za hrano, ki je bila proizvedena z namenom porabe, a je iz različnih razlogov končala kot odpadek – bodisi na kmetijah, v predelovalni industriji, v trgovinah, gospodinjstvih, turizmu ali gostinstvu.

V Sloveniji je v letu 2023 povprečen prebivalec zavržel 78 kg hrane, pri čemer se je največ odpadne hrane ustvarilo prav v gospodinjstvih. Podatki o nastalih količinah odpadne hrane po izvoru kažejo, da je bilo v gospodinjstvih zavržene kar 43,7 % vse odpadne hrane. Sledijo gostinstvo ter druge dejavnosti, kjer se streže hrana (vključno s šolami, vrtci, bolnišnicami in domovi za starejše), z 34 %. V proizvodnji hrane je nastalo 13 % odpadne hrane, najmanj (9 %) pa v dejavnosti trgovine z živili in distribuciji.

1 Introduction

Every year, vast quantities of food, often perfectly edible, are thrown away worldwide. This wastes money and precious natural resources, energy, and effort. Food waste contributes to environmental pollution and climate change, alerting us to food system imbalances.

This document aims to raise awareness of the problem and offer concrete solutions to reduce food loss and waste at all levels—from agriculture to the home kitchen. This brochure contains practical tips on how you can help reduce food waste yourself.

2 The importance of reducing food waste

Reducing food waste makes significant environmental and economic sense. According to the World Food Organisation (FAO), as much as one-third of all food produced globally is wasted, resulting in a massive loss of raw materials, energy, and money. Waste is often caused by inadequate storage, poor organisation and poor food planning. Food was produced to be consumed, but for various reasons, it ends up as waste - whether on farms, in the processing industry, in shops, in households, in tourism, or catering.

In Slovenia in 2023, the average person threw away 78 kg of food, with households generating the most food waste. Data on food waste generation by origin shows that households accounted for 43.7% of all food waste. This is followed by catering and other food serving activities (including schools, kindergartens, hospitals and nursing homes) with 34%. Food production accounted for 13% of food waste, while food retail and distribution accounted for the least (9%).

Učinkovitejša pridelava in poraba hrane bi lahko bistveno prispevali k boljšemu izkoristku virov, zmanjšanju stroškov in omejitvi vpliva na okolje. Manj zavržene hrane pomeni tudi manj potrebe po uporabi gnojil, nižje emisije toplogrednih plinov, kot je metan, in zmanjšanje pritiska na okolje zaradi odlaganja hrane na odlagališčih.

Pomembno je razlikovati med pojmom »izguba hrane« in »odpadna hrana«. Izguba hrane nastane v fazi primarne proizvodnje – torej na kmetijah, med prevozom, obdelavo, predelavo in proizvodnjo. Po drugi strani pa odpadna hrana nastane od maloprodaje naprej – vključuje zavrženo hrano v gostinskih obratih, obratih za strežbo hrane (kot so vrtci, šole, menze ipd.), pa tudi v gospodinjstvih, kjer je hrana že namenjena končni porabi, a ni bila porabljena.

Generalna skupščina Združenih narodov je leta 2015 sprejela cilje trajnostnega razvoja, med katerimi je tudi cilj 12.3 – prepoloviti količino odpadne hrane na prebivalca na ravni maloprodaje in potrošnikov ter zmanjšati izgube hrane vzdolž celotne proizvodne in dobavne verige, vključno z izgubami po spravi pridelka, do leta 2030. V odziv na to je Svet Evropske unije leta 2016 sprejel sklepe o zmanjševanju izgub hrane in odpadne hrane. Evropska unija v ta namen predlaga zavezujoče cilje za vse države članice – zmanjšanje izgub hrane za 10 % v proizvodnji in predelavi ter zmanjšanje količine odpadne hrane na prebivalca za 30 % v trgovini na drobno, strežbi hrane in gospodinjstvih.

V Sloveniji je bilo 29. septembra 2020, na pobudo Ministrstva za kmetijstvo, gozdarstvo in prehrano RS, podpisana Izjava o sodelovanju za zmanjševanje izgub in odpadne hrane, ki jo je podprlo sedem deležnikov, med njimi tudi Kmetijsko gozdarska zbornica Slovenije (KGZS). Od leta 2023 je v okviru javne službe za kmetijsko svetovanje vključena tudi naloga ozaveščanja in svetovanja o zmanjševanju odpadne hrane. Slovenija se aktivno vključuje v doseganje cilja SDG 12.3, in v tem okviru sta bila sprejeta dva ključna dokumenta: Strategija za manj izgub hrane in odpadne hrane v verigi preskrbe s hrano z naslovom »Spoštujmo hrano – spoštujmo planet«, ki jo je vlada sprejela 23. decembra 2021, ter Akcijski načrt za izvajanje te strategije.

Napredek pri izvajanju akcijskega načrta se bo spremljal s pomočjo določenih kazalnikov ter na podlagi količine odpadne hrane, ki jo redno spremlja in objavlja Statistični urad Republike Slovenije.

More efficient food production and consumption could significantly contribute to better resource use, reduced costs, and limited environmental impact. Less food waste also means less need for fertiliser, lower emissions of greenhouse gases such as methane, and reduced pressure on the environment from food going to landfills.

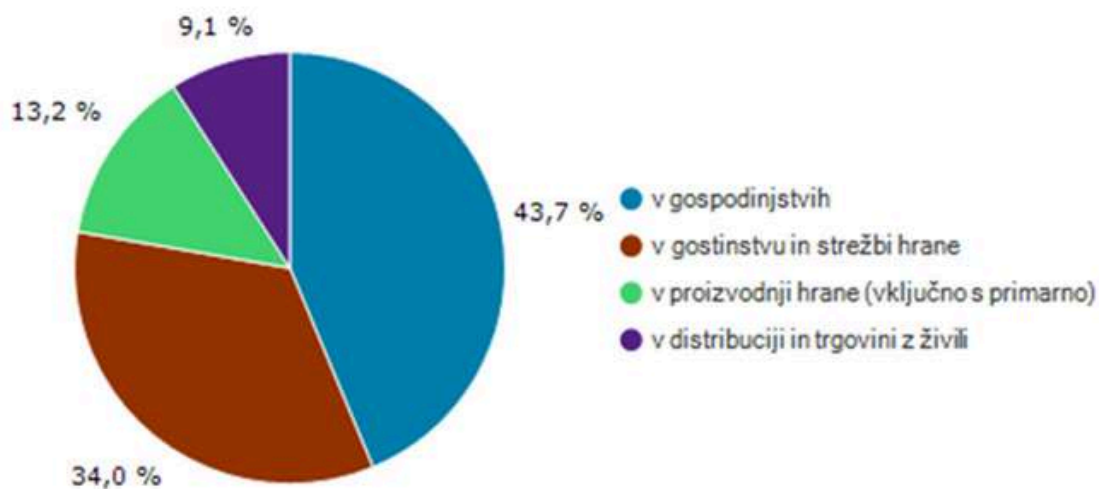
It is essential to distinguish between "food loss" and "food waste" concepts. Food waste occurs at the primary production stage—i.e., on farms, during transport, handling, processing, and production. Food waste, on the other hand, appears from the retail stage onwards—it includes food wasted in catering establishments, food service establishments (such as nurseries, schools, canteens, etc.), and households where food is already destined for final consumption but has not been consumed.

In 2015, the United Nations General Assembly adopted the Sustainable Development Goals (SDGs), including target 12.3 - to halve per capita food waste at the retail and consumer level and reduce food losses along the entire production and supply chain, including post-harvest losses, by 2030. In response, the Council of the European Union adopted conclusions on reducing food loss and waste in 2016. To this end, the European Union proposes binding targets for all Member States - a 10% reduction in food losses in production and processing, and a 30% reduction in per capita food waste in retail, food service and households.

In Slovenia, on 29 September 2020, on the initiative of the Ministry of Agriculture, Forestry and Food of the Republic of Slovenia, a Declaration of Cooperation on Reducing Food Loss and Waste was signed, supported by seven stakeholders, including the Slovenian Chamber of Agriculture and Forestry (KGZS). From 2023, the public agricultural advisory service will also include an awareness-raising task and advice on reducing food waste. Slovenia is actively engaged in achieving SDG 12.3, and in this context two key documents have been adopted: the Strategy for Less Food Loss and Waste in the Food Supply Chain "Respect Food - Respect the Planet", adopted by the Government on 23 December 2021, and the Action Plan for the implementation of this Strategy.

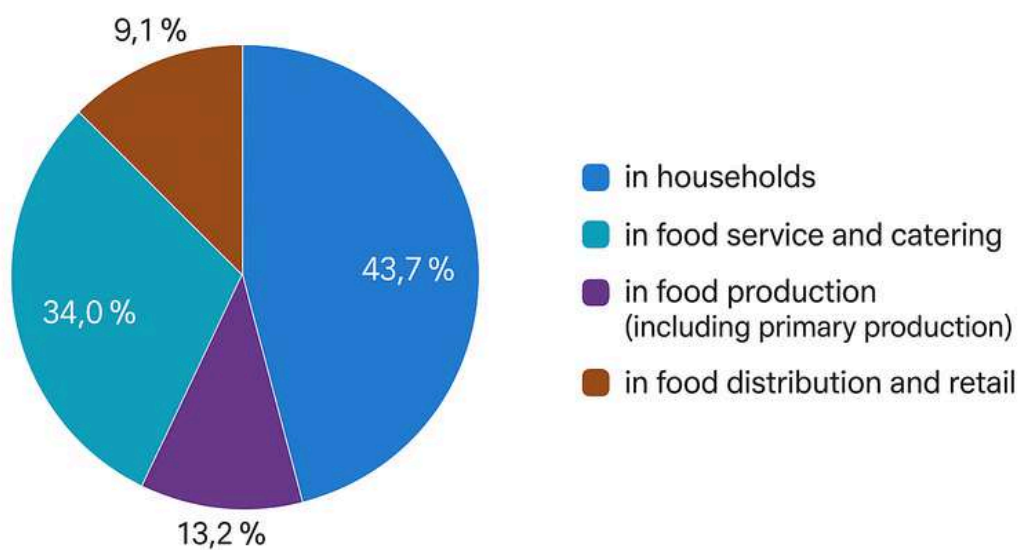
Progress in implementing the Action Plan will be monitored through defined indicators, based on the amount of food waste regularly monitored and published by the Statistical Office of the Republic of Slovenia.

Nastale količine odpadne hrane po izvoru, Slovenija, 2023



REPUBLIKA SLOVENIJA
STATISTIČNI URAD

Generated Amounts of Food Waste by Source, Slovenia 2023



STATISTICAL OFFICE
REPUBLIC OF SLOVENIA



3 Dejavniki nastajanja izgub in odpadne hrane

V celotni verigi preskrbe s hrano se odpadna hrana in izgube hrane pojavljajo iz različnih razlogov, ki so značilni za posamezno fazo – od primarne pridelave pa vse do končnega potrošnika. V primarni pridelavi, torej pred in po spravilu ali zakolu, do izgub pogosto prihaja zaradi padca odkupnih cen, slabše kakovosti pridelkov, neugodnih vremenskih razmer, netržnih pridelkov ali slabo načrtovane proizvodnje. Ti dejavniki pomenijo, da del pridelka nikoli ne pride na trg ali pa ni primeren za prodajo.

Tudi v fazi predelave in proizvodnje hrane prihaja do izgub, saj se lahko zgodi, da surovine niso ustrezne kakovosti, pride do poškodb surovin ali končnih izdelkov, tehničnih motenj, napak pri vodenju sistema kakovosti ali prekomerne proizvodnje. Pomemben dejavnik so tudi dolge transportne poti, kratek rok trajanja izdelkov ali celo neustreznost deklaracij, ki preprečuje prodajo izdelkov.

V fazi prodaje na drobno in distribucije se odpadna hrana pojavi predvsem zaradi neustreznega upravljanja zalog, prisotnosti netržnih izdelkov ali poškodovane embalaže. Poleg tega lahko na nastanek zavržkov vplivajo neustrezne velikosti paketov hrane, odpoklici izdelkov ter neprimerno rokovanje z živili.

3 Drivers of food waste and wastage

Food waste and losses occur throughout the food supply chain for various reasons specific to each stage, from primary production to the final consumer. In primary production, i.e., before and after harvest or slaughter, losses are often due to falling farm gate prices, poorer quality produce, adverse weather conditions, non-marketable produce, or poorly planned production. These factors mean that part of the crop never reaches the market or is not marketable.

Losses also occur in food production's processing and production phase, where raw materials may be of inadequate quality, raw materials or finished products may be damaged, technical failures, quality system management errors, or overproduction may occur. Long transport routes, short shelf-life of products or even inadequate declarations preventing the sale of products are also essential factors.

Food waste is mainly caused by inadequate stock management, unmarketable products or damaged packaging at the retail and distribution stage. In addition, insufficient food parcel sizes, product recalls, and improper food handling can also contribute to food waste.

V gostinstvu in restavracijah do izgub prihaja zaradi nepravilnega načrtovanja nakupov in obrokov, pomanjkljivega spremljanja zalog ter neustrezne ponudbe. Pomemben vpliv imajo tudi pomanjkljiva higiena in sanitarni standardi ter neprilagojena velikost porcij, ki pogosto presega potrebe potrošnikov.

Največ odpadne hrane pa nastane v gospodinjstvih, kjer se pogosto ne upošteva rok uporabnosti živil oziroma ni jasnega razumevanja razlik med oznakama »uporabno najmanj do« in »porabiti do«, kar vodi do nepotrebnega zavržka hrane zaradi strahu pred morebitno zastrupitvijo. Poleg tega se pogosto ne upošteva sezonska in lokalna ponudba hrane, obroki so preveliki, živila se nepravilno shranjujejo, zmanjkuje pa tudi znanja o pravilnem ravnanju s hrano. Mnogi potrošniki ne vedo, kako ustrezno shraniti ali ponovno uporabiti ostanke hrane – kot na primer kruh, sadje ali zelenjavo. Slabo načrtovani ali nepremišljeni nakupi, nepravilna priprava hrane in neustrezni prehranski vzorci, ki so prisotni v vseh starostnih skupinah, dodatno prispevajo k nastanku odpadne hrane v gospodinjstvih.

3.1 Nastajanje izgub in odpadne hrane v prehranski verigi

- **Kmetijstvo:** netržni pridelki, padci cen, neoptimalna proizvodnja
- **Industrija:** poškodbe izdelkov, tehnične napake, prevelika proizvodnja
- **Trgovina:** poškodovana embalaža, napačna napoved povpraševanja
- **Gostinstvo:** prevelike porcije, slabo načrtovanje jedilnikov

In the catering and restaurant sector, losses are caused by incorrect purchase and meal planning, inadequate stock monitoring, and inadequate supply. Insufficient hygiene and sanitation standards and inappropriate portion sizes often exceed consumer needs and significantly impact the industry.

However, most food waste is generated in households, where the expiry dates of foodstuffs are often not respected or there is a lack of clear understanding of the difference between 'use by' and 'best before' labels, leading to unnecessary food waste due to fears of possible poisoning. In addition, seasonal and local food availability is often ignored, portions are oversized, food is improperly stored, and there is a lack of knowledge on proper food handling. Many consumers do not know how to properly store or reuse leftover food, such as bread, fruit or vegetables. Poorly planned or ill-considered purchases, improper food preparation and inappropriate dietary patterns, which are present in all age groups, further contribute to food waste generation in households.

3.1 Food waste and losses in the food chain

- **Agriculture:** non-marketable crops, price falls, sub-optimal production
- **Industry:** product damage, technical defects, overproduction
- **Store:** damaged packaging, wrong demand forecast
- **Catering:** too large portions, poor menu planning



3.2 Nastajanje izgub in odpadne hrane v gospodinjstvih

- Nepoznavanje pomena označb na embalaži
- Preveliki nakupi in porcije
- Napačno shranjevanje živil
- Neuporaba ostankov hrane

4 Strateški cilji zmanjševanja izgub hrane

Celovit pristop k zmanjševanju izgub in odpadne hrane vključuje več pomembnih korakov, ki segajo od preprečevanja njihovega nastajanja pa vse do ustreznega ravnanja z že nastalo odpadno hrano. Ključno je preprečevanje izgub in presežkov hrane že v fazi proizvodnje in potrošnje. To pomeni, da je treba optimizirati zaloge, uporabljati primerno tehnologijo, redno spremljati količine odpadne hrane ter vlagati v ozaveščanje vseh deležnikov v verigi preskrbe s hrano.

Zmanjšanje količine odpadne hrane je mogoče doseči tudi z ustreznim prerazporejanjem in uporabo presežkov hrane. Eden ključnih ukrepov je doniranje hrane, ki je še vedno varna in užitna, a presežna, ter s tem omogočanje, da ta doseže tiste, ki jo potrebujejo. Poleg tega se presežki hrane lahko uporabijo za predelavo v nove izdelke – bodisi prehranske bodisi ne prehranske – ali pa se preusmerijo v proizvodnjo krme za živali, kadar niso več primerni za humano prehrano.

Učinkovito in okolju prijazno ravnanje z odpadno hrano vključuje njeno nadaljnjo obdelavo. Med najpogostejšimi pristopi sta aerobna obdelava, kot je kompostiranje, ter anaerobna obdelava, na primer v bioplinarnah, kjer se iz odpadne hrane pridobiva bioplin. Poleg teh metod obstajajo tudi drugi postopki obdelave odpadkov, kot so vključevanje v biogospodarstvo ali energetska predelava, kjer e odpadna hrana uporabi kot vir energije.

Pomemben cilj tega pristopa je tudi vključitev manjkajočih segmentov v sistem spremljanja ravnanja z odpadno hrano. Ena od ključnih nalog v prihodnje je tako vključitev podatkov o hišnem kompostiranju, saj gre za pomemben, a pogosto spregledan način trajnostnega ravnanja z odpadno hrano na ravni gospodinjstev.

3.2 Generation of household food waste and wastage

- Ignorance of the meaning of labels on packaging
- Oversized purchases and portions
- Incorrect food storage
- Not using food scraps

4 Strategic objectives for reducing food losses

A comprehensive approach to reducing food loss and waste involves several essential steps, ranging from prevention to proper management of the food waste already generated. The key is to prevent food losses and surpluses from the production and consumption stages. This means optimising stocks, using appropriate technology, regularly monitoring food waste and investing in raising awareness among all stakeholders in the food supply chain.

Proper redistribution and use of surplus food can also reduce food waste. One key measure is to donate food that is still safe and edible but surplus, to enable it to reach those in need. In addition, surplus food can be processed into new products—either nutritional or non-nutritional—or diverted into animal feed production when it is no longer fit for human consumption.

The efficient and environmentally friendly management of food waste involves further treatment. The most common approaches are aerobic treatment, such as composting, and anaerobic treatment, for example, in biogas plants, where biogas is produced from food waste. In addition to these methods, there are other waste treatment processes, such as integration into the bioeconomy or energy recovery, where food waste is used as an energy source.

The essential objective of this approach is to include the missing segments in the food waste monitoring system. Thus, one of the key tasks for the future is to include data on home composting, as this is an essential but often overlooked way of managing food waste sustainably at the household level.

5 Aktivnosti za zmanjšanje izgub hrane in količine odpadne hrane do leta 2030

5.1 Sistematični ukrepi

- Sprememba zakonodaje
- Ozaveščanje prebivalstva in izobraževanje v šolah
- Razvoj usposabljanj za vse člene prehranske verige
- Podpora inovacijam in dobrih praks
- Ustanovitev platform za delitev presežkov hrane



5.2 Donacije presežkov hrane

Prerazporeditev viškov hrane preko donacijskih sistemov je eden najučinkovitejših načinov zmanjševanja odpadne hrane. Presežki iz kmetij, trgovin in proizvodnje se lahko varno in učinkovito usmerijo v dobrodelne organizacije. Pomembna je vzpostavitev ustrezne infrastrukture, sistemske podpore in pravnih okvirov, ki bodo olajšali donacije in zmanjšali birokratske ovire.

5 Actions to reduce food losses and waste by 2030

5.1 Systematic measures

- Change in legislation
- Raising awareness and education in schools
- Developing training for all links in the food chain
- Supporting innovation and good practice
- Setting up platforms to share surplus food



5.2 Donations of surplus food

Redistributing surplus food through donation systems is one of the most effective ways to reduce food waste. Surpluses from farms, shops, and manufacturing can be safely and efficiently channelled to charities. The appropriate infrastructure, system support, and legal frameworks must be implemented to facilitate donations and reduce bureaucratic barriers.

6 Ukrepi v kmetijstvu

Za učinkovito zmanjševanje izgub hrane v kmetijstvu je ključno izvajanje različnih ukrepov, ki segajo od ozaveščanja potrošnikov do izboljšav v pridelavi, predelavi in skladiščenju. Pomembno vlogo ima predvsem osveščanje potrošnikov o vrednosti hrane, trajnostnem ravnanju z njo ter posledicah zavržkov, saj se s tem vpliva tudi na povpraševanje in odnos do hrane že pri viru – v kmetijstvu.

Izboljšanje kmetijskih praks je bistveno za zmanjšanje izgub v tej panogi. Za različne vrste sadnih rastlin, zelenjave in poljščin obstajajo tehnološka navodila, ki pridelovalcem omogočajo kakovostnejšo in bolj učinkovito pridelavo. Sodobno, precizno kmetijstvo vključuje uporabo naprednih tehnologij, ki optimizirajo kmetijske procese in omogočajo večje pridelke z manjšo porabo virov. Posebej manjšim kmetijam se priporoča uporaba tehnologij, ki temeljijo na podatkih in omogočajo učinkovitejše kmetovanje ob zmanjšani porabi repromateriali, časa, goriva in z manjšo obremenitvijo okolja. Med takšnimi tehnologijami so npr. navigacijski sistemi za kmetijsko mehanizacijo in računalniški programi za podporo odločanju pri setvi, namakanju in drugih postopkih.

Velik poudarek mora biti na prizadevanju za visoko kakovost pridelkov, ki je odvisna od številnih dejavnikov, kot so vremenske razmere, ustrezno namakanje, pravilno gnojenje, tehnološki postopki, pojav bolezni in škodljivcev ter optimalen čas spravila. Pomembno je, da se pridelki poberejo v fazi optimalne zrelosti, kar omogoča njihovo kakovostno skladiščenje. Pri tem moramo upoštevati tudi skladiščne sposobnosti posameznih sort in parametre zrelosti, saj je kakovost spravila ključna za nadaljnjo uporabo pridelkov.

Skladiščenje ima pomembno vlogo pri podaljševanju uporabnosti pridelkov, ohranjanju kakovosti in zmanjšanju izgub med transportom in prodajo. Pravilno skladiščenje zahteva spoštovanje priporočenih parametrov, kot sta relativna zračna vlaga in temperatura, v primeru kontrolirane atmosfere pa tudi sestava zraka. Skladiščne sposobnosti pridelkov so lahko zmanjšane zaradi stresnih razmer v pridelovalni sezoni, zato je tudi priprava skladiščnih prostorov izrednega pomena.

6 Actions in agriculture

Implementing a range of measures, from consumer awareness to improvements in production, processing, and storage, is key to effectively reducing food losses in agriculture. Raising consumer awareness about the value of food, its sustainable handling, and the consequences of food waste plays an important role, as it also influences demand and attitudes towards food at source in agriculture.

Improving farming practices is essential to reduce losses in this sector. Technological guidelines exist for different fruit plants, vegetables and arable crops, enabling growers to produce better quality and more efficiently. Modern precision farming involves using advanced technologies that optimise farming processes and allow higher yields with lower resource consumption. The use of data-driven technologies that allow for more efficient agriculture with reduced use of reprocessing materials, time, fuel and environmental impact is recommended, especially for smaller farms. Such technologies include, for example, navigation systems for farm machinery and computer programmes to support decision-making in sowing, irrigation and other operations.

A strong emphasis must be placed on the pursuit of high crop quality, which depends on several factors such as weather conditions, adequate irrigation, correct fertilisation, technological practices, diseases and pests, and the optimum harvest time. The crops must be harvested at the optimum stage of ripeness to allow them to be stored in good quality. The storage capacity of the varieties and the maturity parameters must also be taken into account, as the quality of the harvest is crucial for the future use of the produce.

Storage plays a vital role in extending the shelf life of produce, preserving quality and reducing losses during transport and sale. Proper storage requires compliance with recommended parameters such as relative humidity and temperature, and, in the case of controlled atmospheres, the composition of the air. Stressful conditions can reduce the storage capacity of crops during the growing season, so preparing storage facilities is also paramount.

Viške pridelkov lahko smiselno uporabimo za predelavo, da preprečimo, da bi končali kot odpadki. Ti se lahko konzervirajo s toplotno obdelavo, hlajenjem, zamrzovanjem, sušenjem, žganjekuho ali liofilizacijo. Možna je tudi njihova predelava v različne nove izdelke, pri čemer je pomembna inovativnost in uporaba lokalnih virov. Dobri primeri vključujejo predelavo ostankov kruha v žgano pijačo (Brodka), uporabo jabolčnih tropin za izdelavo moke brez glutena, ali izdelavo orehovega namaza iz ostankov proizvodnje orehovega olja v okviru projekta AlpBioEco. Stranski produkti živilske industrije, ki ostanejo po predelavi rastlin za prehrano ljudi in imajo še vedno hranilno vrednost, se lahko uporabijo tudi za prehrano živali. Med take primere sodijo otrobi, krmna moka, pesni rezanci, pivske tropine in oljne pogače. Za izboljšanje ješčosti telet se denimo uporabljajo jabolčne tropine, medtem ko rožičeva moka izboljšuje okusnost krme in stabilizira prebavo.

Ustrezno ravnanje z odpadno hrano je ključno za trajnostno kmetijstvo, pri čemer ima kompostiranje pomembno vlogo. Gre za proces kontrolirane bio oksidativne razgradnje organskih snovi, pri katerem nastane humusu podobno, počasi topno organsko gnojilo.

Kompost izboljšuje teksturo tal, povečuje njihovo sposobnost zadrževanja vode in zraka, zmanjšuje erozijo in zmanjšuje potrebo po uporabi umetnih gnojil. Za uspešno kompostiranje morajo biti izpolnjeni ustrezni pogoji – primerna vlaga, zračnost, ustrezna hranilna razmerja, pravilna oblika kompostnih kupov, ustrezna toplota in lokacija. Na kompostni kup se lahko odlagajo vsi organski odpadki s kmetije, kot so trava, pleveli, listje, slama, veje, odmrlo cvetje, lesni pepel, hlevski gnoj, volna, perje ter gospodinjski ostanki.

The crop can be sensibly reprocessed to prevent it from becoming waste. They can be preserved by heat treatment, chilling, freezing, drying, calcination or freeze-drying. It is also possible to convert them into new products, where innovation and using local resources are essential. Good examples include the conversion of leftover bread into a spirit (Brodka), the use of apple pomace to make gluten-free flour, or the production of a nut spread from the leftovers of walnut oil production in the framework of the AlpBioEco project. By-products of the food industry that remain after processing plants for human consumption and still have nutritional value can also be used for animal feed. Examples include bran, feed meal, beet pulp, beer pomace and oil cakes. For instance, apple pomace improves calf stamina, while carob meal improves feed palatability and stabilises digestion.

Proper food waste management is key to sustainable agriculture, and composting is essential. It is a controlled bio-oxidative decomposition of organic matter to produce a humus-like, slowly soluble organic fertiliser. Compost improves soil texture, increases water and air holding capacity, reduces erosion and reduces the need for artificial fertilisers.

For composting to be successful, the right conditions must be met - adequate moisture, airiness, proper nutrient ratios, correct shape of compost heaps, insufficient heat and location. All organic waste from the farm, such as grass, weeds, leaves, straw, branches, dead flowers, wood ash, manure, wool, feathers and household residues can be placed in the compost heap.



7 Praktični napotki za zmanjšanje odpadne hrane v gospodinjstvih

7.1 Načrtovanje nakupov in priprave obrokov

Najpogostejši vzroki za nastanek odpadne hrane v gospodinjstvih so povezani predvsem s prekomernim nakupovanjem in nepravilnim načrtovanjem obrokov. Pogosto se zgodi, da zaradi posebnih ponudb in akcij v trgovinah kupimo več hrane, kot je dejansko potrebujemo, kar vodi v presežke, ki jih ne uspemo pravočasno porabiti. Prav tako pogosto pripravljamo količinsko prevelike obroke, ki jih družinski člani ne pojedjo v celoti. Poseben izziv predstavljajo otroci, saj so pri hrani pogosto izbirčni – če jim jed ni po okusu, se ta na koncu znajde med odpadki. Vsi ti dejavniki skupaj pomembno prispevajo k nastanku odpadne hrane v gospodinjstvih in kažejo na potrebo po boljšem načrtovanju, ozaveščanju in spoštovanju hrane kot dragocene dobrine.

Z nekaj preprostimi odločitvami lahko bistveno zmanjšamo presežke hrane ter se usmerimo v bolj trajnostno prehranjevanje. Pri načrtovanju zmanjševanja odpadne hrane v gospodinjstvu si lahko pomagamo z preprostimi rešitvami kot so:

- Načrtovanje jedilnika za nekaj dni vnaprej,
- pred nakupovanjem v trgovini si doma pripravimo nakupovalni listek,
- kupimo samo toliko količino sestavin, kot jih potrebujemo za pripravo obroka,
- nakupljene sestavine primerno shranimo odvisno od sestave živila,
- priporočljivo se je podučiti, kaj pomeni rok uporabe, ki je naveden na embalaži živila,
- zamrzovanje živil,
- iz sestavin, ki so nam ostale pri pripravi obroka se jih potrudimo uporabiti pri nastajanju nove jedi.

Eden najučinkovitejših načinov za zmanjšanje količine odpadne hrane v gospodinjstvu je načrtovanje jedilnika za več dni vnaprej. Takšen pristop nam omogoča, da kupimo le tista živila, ki jih resnično potrebujemo in za katera vemo, da jih bomo v določenem času tudi porabili. S tem se izognemo impulzivnim nakupom in zmanjšamo možnost, da bi živila ostala neporabljena in končala med odpadki.

7 Practical tips to reduce food waste in households

7.1 Planning purchases and meal preparation

The most common causes of household food waste are excessive shopping and improper meal planning. Special offers and promotions in shops often lead to buying more food than we need, leading to surpluses that we fail to use in time. We also often over-prepare meals not eaten in full by family members. Children pose a particular challenge as they are usually picky regarding food - if they don't like it, it ends up in the waste. Together, these factors contribute significantly to household food waste and point to better planning, awareness raising and respect for food as a precious commodity.

By making simple choices, we can significantly reduce our food surpluses and move towards more sustainable eating. Simple solutions can help you plan to reduce food waste in your household, such as:

- planning your menu a few days in advance,
- prepare a shopping list at home before you go grocery shopping,
- buy only the amount of ingredients you need to prepare a meal,
- Store the ingredients you buy appropriately, depending on the composition of the food.
- It is advisable to determine the best-before date on the food packaging.
- freezing food,
- using the leftover ingredients from preparing a meal to create a new dish.

One of the most effective ways to reduce food waste in the household is to plan menus several days in advance. This approach allows us to buy only the foods we need and know we will use within a specific time. This avoids impulse purchases and reduces the chance of food going unused and ending in the waste stream.

Pri načrtovanju obrokov je priporočljivo upoštevati sezonsko in lokalno dostopnost živil, saj so taka živila običajno bolj sveža, okusnejša, pogosto cenejša ter prijaznejša do okolja. Prilagoditev jedilnika letnemu času pomeni tudi večjo raznolikost na krožniku in hkrati boljšo izrabo živil, ki so trenutno v izobilju.

Najboljši način je, da že na začetku tedna načrtujete vse obroke za prihodnjih sedem dni. Najprej preverite, katere sestavine že imate doma – to vključuje pregled hladilnika, zamrzovalnika in polic v shrambi. Nato si pripravite seznam manjkajočih živil, ki jih potrebujete za pripravo načrtovanih jedi. Ko se odpravite v trgovino, se držite seznama in kupite le tista živila, ki jih resnično potrebujete. Tako boste zmanjšali količino zavržene hrane, hkrati pa tudi prihranili čas in denar.



When planning meals, it is advisable to consider the seasonal and local availability of foods, as these are usually fresher, tastier, often cheaper and more environmentally friendly. Adapting menus to the seasons also means more variety, while using the currently abundant foods better.

The best way to do this is to plan all your meals for the next seven days at the beginning of the week. First, check what ingredients you already have at home, including your fridge, freezer and pantry shelves. Then, list the foods you need to prepare for the planned meals. When you go to the grocery store, stick to the list and buy only the necessary foods. This will reduce the food you throw away and save time and money.

7.2 Shranjevanje hrane in pravilno rokovanje z živili

Pri nakupovanju živil je zelo pomembno, da smo pozorni na datume uporabe, saj s tem zmanjšamo možnost, da bi hrana prehitro postala neuporabna in končala med odpadki. Če živila ne potrebujete takoj, raje izberite tisto z daljšim rokom uporabe ali pa nakup preložite na čas, ko ga boste dejansko potrebovali. Tako boste lažje načrtovali porabo in preprečili nepotrebno zavrženo hrano.

Posebno pozornost namenite oznakam na embalaži, saj se med seboj razlikujejo:

»**Uporabno do**« označuje datum, do katerega je živilo varno za uživanje. To velja predvsem za hitro pokvarljiva živila, kot so meso, ribe in mlečni izdelki. Po preteku tega datuma bolje da živila ne zaužijemo, saj lahko predstavlja tveganje za zdravje.

»**Uporabno najmanj do**« pa pomeni, da je izdelek do navedenega datuma pričakovane kakovosti (okus, tekstura, hranilna vrednost). Po tem datumu je živilo še vedno varno za uživanje, če je bilo pravilno shranjeno, zato ga ni treba takoj zavreči. Takšna živila so pogosto testenine, riž, konzervirana hrana, piškoti in podobno.

Z razumevanjem teh dveh oznak lahko bistveno pripomoremo k zmanjševanju količine zavržene hrane in hkrati poskrbimo za varno ter odgovorno ravnanje z živili.

Eno izmed ključnih načel je shranjevanje po principu »**najprej porabi, kar bo prej poteklo**«. To pomeni, da živila z bližnjim rokom uporabe postavimo v ospredje hladilnika ali shrambe, medtem ko tiste z daljšim rokom postavimo zadaj. Tako imamo vedno pregled nad tem, katera živila moramo porabiti prej, in zmanjšamo možnost, da bi katero od njih pozabili in zavrgli.

Poleg tega je pomembno, da sadje in zelenjavo shranjujemo ločeno. Nekatero sadje, kot so jabolka, hruške ali banane, oddaja plin etilen, ki lahko pospeši zorenje in s tem prezgodnje kvarjenje drugih vrst sadja in zelenjave, ki so občutljive na ta plin. Ločeno shranjevanje tako pripomore k daljši svežini živil.

7.2 Food storage and proper handling

When shopping for food, paying attention to use-by dates is very important to reduce the chances of food going out of date too quickly and ending up in the waste stream. If you don't need food immediately, choose one with a longer shelf life or postpone buying it until you need it. This will help you plan your consumption and prevent unnecessary food waste.

Pay particular attention to the labels on the packaging, as they differ from one another:

"**Use by**" indicates the date until the food is safe. This applies especially to perishable foods such as meat, fish and dairy products. After this date, it is better not to consume the food as it may pose a health risk.

"**Best before**" means that the product is of the expected quality (taste, texture, nutritional value) by the date indicated. After that date, the food is still safe if stored correctly and does not need to be thrown away immediately. Such foods are often pasta, rice, canned food, biscuits, etc.

Understanding these two labels can significantly reduce food waste while ensuring safe and responsible food handling.

One key principle is "**use first, expire first**" storage. This means putting foods with a short shelf life at the front of the fridge or pantry and those with a longer shelf life at the back. This way, we always have an overview of which foods need to be used sooner, reducing the chances of forgetting and throwing them away.

It is also essential to store fruit and vegetables separately. Some fruits, such as apples, pears, or bananas, emit ethylene gas, which can accelerate ripening and thus prematurely spoil other fruits and vegetables that are sensitive to this gas. Separate storage, therefore, helps to prolong the freshness of foodstuffs.

Ni pa vsa hrana primerna za shranjevanje v hladilniku. Živila, kot so paradižniki, banane in kruh, v hladnem okolju izgubijo okus, spremenijo teksturo ali se celo hitreje pokvarijo. Paradižniki postanejo mehki in izgubijo aromo, banane hitreje porjavijo, kruh pa se izsuši in postane nepriljubljen. Zato je pomembno, da vemo, katera živila hraniti v hladilniku in katera ne, ter jim zagotovimo ustrezne pogoje shranjevanja.

7.3 Zamrzovanje hrane

Pomembno je, da živila, ki jih imamo namen zamrzniti, zamrznemo takoj, ko jih prinesemo iz trgovine ali tržnice. Tako preprečimo razraščanje bakterij in poskrbimo, da bodo obdržala svojo kakovost in okus. Vso zamrznjeno hrano obvezno opremimo z datumom, da imamo nadzor nad tem, koliko časa je že v zamrzovalniku. Kadar shranjujemo kuhano hrano, je zelo pomembno, da jo najprej ohladimo.

Koliko časa so določena živila obstojna v zamrzovalniku?



- Cel surov piščanec: 1 leto
- Surov razkosan piščanec: 9 mesecev
- Surovi zrezki, kotleti, pečenka: 4–12 mesecev
- Surovo mleto meso: 3–4 meseci
- Klobasa: 1–2 meseca
- Golaž, obara ipd.: 2–3 meseci
- Slanina: 1–2 meseca
- Kuhana govedina in svinjina: 2–3 mesece
- Kuhana perutnina: 4 mesece
- Enolončnice: 2–3 mesece
- Sadje: 8–12 mesecev
- Zelenjava: 8–12 mesecev

Not all food is suitable for refrigeration. Foods such as tomatoes, bananas and bread lose flavour, change texture or even spoil more quickly in a cold environment. Tomatoes become soft and lose their flavour, bananas turn brown more quickly, and bread dries out and becomes unattractive. It is therefore essential to know which foods to refrigerate and which not to refrigerate, and to ensure that they are stored in the right conditions.

7.3 Freezing food

It is essential to freeze the food you intend to freeze as soon as you bring it home from the shop or market. This prevents the growth of bacteria and ensures that the food retains its quality and taste. Be sure to date all frozen food to track how long it has been in the freezer. When storing cooked food, it is essential to chill it first.

How long do certain foods last in the freezer?



- Whole raw chicken: 1 year
- Raw cut-up chicken: 9 months
- Raw steaks, chops, roasts: 4-12 months
- Raw minced meat: 3-4 months
- Sausage: 1-2 months
- Goulash, stew, etc.: 2-3 months
- Bacon: 1-2 months
- Cooked beef and pork: 2-3 months
- Cooked poultry: 4 months
- Stews: 2-3 months
- Fruit: 8-12 months
- Vegetables: 8-12 months

7.4 Pravilno ravnanje s sadjem in zelenjavo

S pravilnimi načini shranjevanja in nekaj preprostimi triki lahko dosežemo veliko:

- Izberimo čim bolj zdrave plodove

Za skladiščenje je potrebno izbrati le kakovostno lokalno zelenjavo in sadje, ki nima znakov poškodb in ni pretirano zrelo. En sam poškodovan ali nagnit plod namreč vpliva tudi na vse druge v bližini in pospeši njihovo propadanje.

- Ločimo sadje in zelenjavo

Pomembno je, da sadje in zelenjavo shranjujemo ločeno, saj mnogo sadja izloča plin etilen, ki pospešuje proces zorenja pri sadežih in zelenjavi, shranjeni v neposredni bližini.

- Pranje sadja in zelenjave pred shranjevanjem

Sadja in zelenjave, namenjene skladiščenju, ne operemo oziroma, če to že storimo, vse predhodno dobro osušimo, saj bi sicer ob skladiščenju nastalo preveč vlage, ki povzroča hitrejše propadanje.

- Kaj shranimo v klet ali temno shrambo

V kleti hranimo tisto sadje in zelenjavo, ki jim ugajata tema in hlad. To še posebej velja za krompir, korenje in gomolje, radič, jabolka in hruške. Zelo dobro se obnese tudi, če gomoljaste pridelke dobro očistite, osušite in shranite v žagovino ali pesek, če imate to možnost.

7.4 Proper handling of fruits and vegetables

With the proper storage methods and a few simple tricks, we can achieve a lot:

- Choose the healthiest possible fruit

Only good-quality local vegetables and fruit that show no signs of damage and are not overripe should be selected for storage. A single damaged or tilted fruit affects all the others in the vicinity and accelerates their deterioration.

- Separating fruit and vegetables

It is essential to store fruit and vegetables separately. Many fruits produce ethylene gas, accelerating ripening in fruit and vegetables stored nearby.

- Washing fruit and vegetables before storage

Fruit and vegetables intended for storage should not be washed, or if they are, they should be well dried beforehand, as this will cause too much moisture to build up during storage, which will cause them to deteriorate more quickly. [style suggestion: 'wash only before use to prevent spoilage'].

- What to store in the cellar or dark storage

We store fruit and vegetables in the cellar, which likes the dark and the cold. This is especially true for potatoes, carrots, tubers, chicory, apples and pears. It also works very well if you clean the tuberous produce well, dry it and store it in sawdust or sand if you have the option.

7.5 Pravilno shranjevanje živil v hladilniku

Večjih količin tople hrane ne smemo shranjevati neposredno v hladilnik. S tem bi lahko povzročili dvig temperature, zato pustimo, da se ohladi na sobno temperaturo. Shranimo jo v dobro zatesnjeni posodi, da se vonj ne bo širil po vsem hladilniku. Poleg tega je tako manjša možnost vnosa nezaželenih bakterij.

Sveže meso, perutnino in ribe pustimo do uporabe v originalni embalaži, saj tudi tako zmanjšamo izpostavljenost hrane škodljivim bakterijam. Ravno tako do uporabe pustimo v originalni embalaži sir, po odprtju pa ga ovijemo v povoščen papir ali plastično folijo. Priporoča se tudi, da mleko raje kot v kartonski embalaži shranjujemo v plastičnih ali steklenih steklenicah, saj se v bližini kartona bakterije pogosteje razvijejo.

Večina hladilnikov taka, da je na vratih prostor, namenjen hrambi jajc in kartonske embalaže, torej tudi mleka. Vrata za to niso najbolj primerna, ker so najtoplejši del, še posebno če jih pogosto odpiramo.

Priporočajo, da se jajca hranijo v originalni embalaži na višjih policah, mleko pa na policah sredi hladilnika. V vratih shranjujemo živila, ki so najbolj odporna proti pokvarljivosti in potrebujejo manj hlajenja. To so omake, sokovi in druge pijače, gorčica, ajvar, marmelada in maslo. Pri odločanju, kaj hraniti na vratih, nam lahko pomaga oznaka na živilih – po odprtju hraniti v hladilniku.

Zgornje police imajo najbolj stabilno temperaturo. Na njih shranjujemo živila, ki ne potrebujejo kuhanja, kot so na primer narezki, sir, namazi in ostanki skuhanih jedi. Srednje police so namenjene mlečnim izdelkom, torej mleku, jogurtom, smetani. Spodnja polica je najhladnejši prostor v hladilniku. Tu shranjujemo sveže meso, perutnino in morske izdelke. Tako preprečimo tudi, da bi morebitne kapljice od teh izdelkov kapljale po drugih živilih.

7.5 Proper storage of food in the fridge

Large quantities of hot food should not be stored directly in the fridge. Doing so could cause the temperature to rise, so allow it to cool to room temperature. Store it in a well-sealed container to prevent the smell from spreading throughout the fridge. This also reduces the possibility of introducing unwanted bacteria.

Fresh meat, poultry, and fish should be left in their original packaging until use, reducing the food's exposure to harmful bacteria. Similarly, cheese should be left in its original packaging until use and wrapped in waxed paper or plastic wrap after opening. It is also recommended to store milk in plastic or glass bottles rather than cardboard packaging, as bacteria are more likely to grow near cardboard.

Most fridges have a space on the door for storing eggs and cartons, including milk. The door is not the best place for this because it is the warmest part, especially if it is opened frequently.

They recommend keeping eggs in their original packaging on higher shelves and milk on shelves in the middle of the fridge. Foods that are most resistant to spoilage and need less refrigeration are stored in the door. These are sauces, juices, other drinks, mustard, ajvar, jam, and butter. The label on the food can help you decide what to keep in the door—refrigerate after opening.

The upper shelves have the most stable temperature. They store foods that don't need cooking, such as cold cuts, cheese, spreads, and leftovers. The middle shelves are for dairy products like milk, yoghurt, and cream. The bottom shelf is the coldest compartment in the fridge. This is where we store fresh meat, poultry, and seafood. This also prevents any drips from these products from dripping onto other foods.

Namen predalov v hladilniku je vzdrževanje vlažnega prostora, ki ohranja svežino sadja in zelenjave. Osnovni napotek pri hrabi teh živil je, da ne hranimo skupaj različnih vrst. Nekatero sadje in zelenjava namreč oddaja plin etilen, ki pospešuje proces zorenja pri sadežih, ki so shranjeni v neposredni bližini. Prehitro zorijo in začnejo gniti. Seveda sadje in zelenjavo pred uživanjem operemo, nikakor pa ne, preden ju damo v hladilnik, ker bo sicer tudi to razlog za hitrejši propad.

Preverite temperaturo hladilnika. Da bi hrana dolgo ostala sveža, jo je treba shranjevati na temperaturi od ene do pet stopinj Celzija. Pri shranjevanju hrane upoštevajte navodila na embalaži.

The purpose of the fridge drawers is to maintain a humid area to keep fruit and vegetables fresh. The basic guideline for storing these foods is not to keep different types together. Some fruit and vegetables release ethylene gas, accelerating the ripening process in fruit stored nearby. They ripen too quickly and start to rot. Of course, wash fruit and vegetables before eating them, but never before putting them in the fridge, as this will also cause them to spoil more quickly.

Check the fridge's temperature. Store food between one and five degrees Celsius to keep it fresh for a long time. When storing food, follow the instructions on the packaging.

KAKO SHRANJEVATI ŽIVILA V HLADILNIKU, DA BODO ZORŽALA DLJE ČASA?

Praktični napotki za pravilno shranjevanje živil v hladilniku

Živila v zamrzovalniku označimo z nalepkami. Zabeležimo vrstno količino in datum pakiranja.

Mesne enote shranjujemo daleč od turvega mesa.

Živila shranjena v plastičnih, steklenih oz. drugih primeranih posodah. Tako bomo preprečili izgubo vlage in okusa ter čiščenje vsebin na ostala živila.

Aluja hranimo v originalni embalaži na višji polici hladilnika, nikoli ne na vrsti, kar se zaradi odpiranja vrat temperatura nekoliko spreminja.

Ta hranimo mlečne izdelke, konzervno meso in pripravke v ovojku "po odprtju hraniti v hladilniku".

Živila omarzujemo tako, da jih postavimo čez noč v hladilnik, in sicer na spodnji polic. Nikoli ne odmrzujemo pri sobni temperaturi na kuhinjskem pultu ali v topli vodi.

Čistilni sredstva shranimo na spodnji polici hladilnika, če jih uporabimo, jih odstranimo in očistimo hladilnik.

Sokove, ovake, maske, smetane in izdelke, ki potrebujejo manj hladnega, hranimo na vrsti hladilnika. Tu je temperatura najvišja, med 13 in 15 °C.

Živila s krajšim rokom uporabimo preden jih postavimo na srednji del police, testa z daljšim rokom pa se lahko bolj začaj.

Surova mesa, parvalna, ribe in morske sadeže hranimo na najnižji polici v hladilniku. To je najhladnejša točka v hladilniku.

Hladilnik in zamrzovalnik redno čistimo. Takoj ko se nekaj polije, površino pobrišemo. Za dezinfekcijo uporabimo mešanico destilirane vode in kisa.

JE ŽIVILO ŠE VEDNO UŽITNO?

- 1. Rok trajanja na le orientacijsko sredstvo.** Živila pogosto lahko zorijo tudi dlje, kot je napisano na embalaži, še posebej pri "najmanj do".
- 2. Poslušajte se s svojimi čuti.** Če je jogurt kisljen dan čez rok trajanja, še ne pomeni, da je zanič. Odprite ga in pokusite - če sta vonj in okus takšna kot poznate, je povsem užitna.
- 3. Je vse, kar je olesavilo, res zanič?** Veliko živil, ki jih napade plesen, moramo zavrniti, nekatera izmed njih pa lahko tudi "rešimo". Če obrznete plesen na suhi salami, trdem siru ter čvrstem sadju in zelenjavi, bo preostali del še čist in v redu. Pazorni bodite le, da vsakič, ko odrežete plesnivi del, než očistite.

RODNOVO KANALIZACIJA HRANJA

V hladilniku ne hranimo:

- **Paradižnika** (postane kašast).
- **Melancana** (če imate možnost ga raje shranite v hladno shrambo ali klet).
- **Kumare** (izgubijo okus).
- **Limone in pomaranče** (izguba okusa).
- **Avokado** (če še ni zrel).
- **Česen in čebula** (hranite ga v shrambi, kjer je dober pretok zraka).
- **Banane** (hranimo na sobni temperaturi v posodi, ki omogoča pretok zraka (skleda za sadje, košara z luknjami). Optimalno je, da shranimo vsako banano posebej, saj hitreje dozorevajo, če so skupaj).
- **Paprika** (paprike hranimo v papirnati vrečki v hladnem in temnem prostoru ali shrambi).
- **Kruha in pekovsko pecivo** (je najbolje hraniti v leseni posodi ali vrečki na sobni temperaturi).

Do not refrigerate:

- **Tomatoes** (becomes mushy).
- **Melancana** (If you have the option, store it in a cold store or cellar).
- **Cucumbers** (lose taste).
- **Lemons and oranges** (loss of taste).
- **Avocado** (if not ripe).
- **Garlic and onions** (Store in a pantry where there is good air flow).
- **Bananas** (stored at room temperature in a container that allows air to circulate (fruit bowl, basket with holes). It is optimal to store each banana separately, as they ripen more quickly when they are together).
- **Peppers** (peppers should be stored in a paper bag in a cool, dark place or pantry).
- **Breads and pastries** (best stored in a wooden container or bag at room temperature).

7.6 Dodatni napotki shranjevanja živil

- Izberimo čim bolj zdrave plodove

Za skladiščenje je potrebno izbrati le kakovostno lokalno zelenjavo in sadje, ki nima znakov poškodb in ni pretirano zrelo. En sam poškodovan ali nagnit plod namreč vpliva tudi na vse druge v bližini in pospeši njihovo propadanje.

- Ločimo sadje in zelenjavo

Pomembno je, da sadje in zelenjavo shranjujemo ločeno, saj mnogo sadja izloča plin etilen, ki pospešuje proces zorenja pri sadežih in zelenjavi, shranjeni v neposredni bližini.

- Pranje sadja in zelenjave pred shranjevanjem

Sadja in zelenjave, namenjene skladiščenju, ne operemo oziroma, če to že storimo, vse predhodno dobro osušimo, saj bi sicer ob skladiščenju nastalo preveč vlage, ki povzroča hitrejše propadanje. [slogovni predlog: 'operemo šele pred uporabo, da preprečimo kvarjenje.']

- Kaj shranimo v klet ali temno shrambo

V kleti hranimo tisto sadje in zelenjavo, ki jim ugajata tema in hlad. To še posebej velja za krompir, korenje in gomolje, radič, jabolka in hruške. Zelo dobro se obnese tudi, če gomoljaste pridelke dobro očistite, osušite in shranite v žagovino ali pesek, če imate to možnost.

7.7 Kompostiranje v gospodinjstvu

Kompostiranje v gospodinjstvu predstavlja enostaven in učinkovit način za zmanjšanje količine bioloških odpadkov ter hkrati omogoča pridobivanje kakovostnega komposta – naravnega gnojila za vrtove, lončnice in zelenjavne gredice.

Kompostiranje zmanjšuje količino gospodinjskih odpadkov, ki končajo na odlagališčih. S pomočjo kompostiranja pridobimo naraven, hranljiv kompost, ki izboljša kakovost tal in posledično zmanjšuje potrebo po kemičnih gnojilih.

7.6 Additional guidance on food storage

- Choose the healthiest possible fruit

Only good-quality local vegetables and fruit that show no signs of damage and are not overripe should be selected for storage. A single damaged or tilted fruit affects all the others in the vicinity and accelerates their deterioration.

- Separating fruit and vegetables

It is essential to store fruit and vegetables separately. Many fruits produce ethylene gas, accelerating ripening in fruit and vegetables stored nearby.

- Washing fruit and vegetables before storage

Fruit and vegetables intended for storage should not be washed, or if they are, they should be well dried beforehand, as this will cause too much moisture to build up during storage, which will cause them to deteriorate more quickly. [style suggestion: 'wash only before use to prevent spoilage'].

- What to store in the cellar or dark storage

We store fruit and vegetables in the cellar, which likes the dark and the cold. This is especially true for potatoes, carrots, tubers, chicory, apples and pears. It also works very well if you clean the tuberous produce well, dry it and store it in sawdust or sand if you have the option.

7.7 Household composting

Household composting is an easy and effective way to reduce biowaste and produce high-quality compost—a natural fertiliser for gardens, pots, and vegetable beds.

Composting reduces the amount of household waste that ends up in landfills. Composting produces natural, nutritious compost that improves soil quality and reduces the need for chemical fertilisers.

Za gospodinjstva v mestih so na voljo kompostniki za balkone ali bokashi sistemi, ki omogočajo kompostiranje tudi v manjših prostorih.

- Kompostiranje z bokashi kompostnikom je enostavno in učinkovito. Primeren je za kompostiranje sadja, zelenjave in ostale hrane.
- Nastali kompost lahko uporabimo za vrtno in sobno rastline.

8 Zaključek

Hrana ni le vir energije – je rezultat trdega dela, naravnih virov in časa. Ko zavržemo hrano, zavržemo veliko več kot le kos kruha ali sadež – zavržemo priložnost za boljši svet.

Zmanjševanje izgub in odpadne hrane je odgovornost, ki jo lahko prevzamemo vsi. S preprostimi koraki – premišljenimi nakupi, pravilnim shranjevanjem in spoštljivim ravnanjem z živili – lahko ustvarimo veliko razliko.

Skupaj lahko ustvarimo prehranski sistem, ki temelji na spoštovanju – do hrane, do narave in drug do drugega. Z zmanjševanjem odpadne hrane ne varujemo le okolja, temveč tudi krepimo solidarnost v družbi in varčujemo z viri.

**Spremembe se začnejo pri posamezniku –
vsak korak šteje!**

For urban households, there are balcony composters or bokashi systems that allow composting in smaller spaces.

- Composting with a bokashi composter is easy and efficient. It is suitable for composting fruit, vegetables and other food.
- The resulting compost can be used for garden and houseplants.

8 Conclusion

Food is not just an energy source - it results from hard work, natural resources and time. When we throw away food, we throw away much more than a piece of bread or fruit - we throw away an opportunity to make the world a better place.

Reducing food waste is a responsibility we can all take on. Simple steps—thoughtful purchases, proper storage, and respectful food handling—can make a big difference.

Together, we can create a food system based on respect for food, nature, and each other. Reducing food waste protects the environment, builds solidarity in society, and saves resources.

**Changes start with the individual – every step
counts!**

Pripravili / prepared:

Janja Kodrič, mag.inž.hort., Anka Poženeš, univ.dipl.inž.agr., Benjamin Zelenko, Damjana Vizjak, prof., Mojca Zorec

VIRI / SOURCES:

https://www.tzslo.si/uploads/2024/priporocila_za_zmanjsanje_odpadne_hrane_v_trgovini.pdf

https://tgzs.si/wp-content/uploads/MKGP-GRadgona_turizem_31.8.23.pdf

<https://www.kgzs.si/novica/kgzs-podpisala-izjavo-o-sodelovanju-za-zmanjsanje-izgub-in-odpadne-hrane-2020-09-29>

https://www.gov.si/assets/ministrstva/MKGP/PODROCJA/HRANA/Zavrski_odpadna_hrana/Strategija_Spostujmo-hrano_spostujmo-planet.pdf

<https://www.stat.si/statweb/News/Index/13128>

https://www.gov.si/assets/ministrstva/MKGP/PODROCJA/HRANA/Zavrski_odpadna_hrana/Akcijski_nacrt_za_izvajanje_strategije_in_o_brazlozitev_ukrepov.pdf

<https://lj.kgzs.si/Portals/1/A-Splet%202023/Odpadna%20hrana%20-%20TL.pdf>

https://www.kgzs.si/uploads/dokumenti/moji_dokumenti/Skladi%C5%A1%C4%8Denje_zelenjave_-_KGZS_-_splet.pdf

<https://lj.kgzs.si/Portals/1/A-Splet%202023/priprava%20skladiscnih%20prostorov%20na%20uskadiscenje%20pridelkov%202023.pdf> <https://agrobiznis.finance.si/nasveti/med-odpadki-konca-petina-hrane-kako-to-zmanjsati/a/9008526>

https://nova.bts.si/wp-content/uploads/2022/09/Splosna_prehrana_zivali.pdf

https://lj.kgzs.si/Portals/1/2016%20-%20novice/Kompost_topas_021216_RM.pdf

https://www.kmetijskizavod-ng.si/panoge/poljedelstvo_in_zelenjadarstvo/2018070616033864/uporaba_ovcje_volne_za_kompostiranje/

<https://repozitorij.uni-lj.si/Dokument.php?id=113540&lang=slv>

<https://farmonaut.com/europe/umetna-inteligenca-v-kmetijstvu-tehnoloske-inovacije-za-trajnostno-prihodnost-slovenije/>

<https://agrobiznis.finance.si/agro-hi-tech/nastaja-prirocnik-tehnologij-za-precizno-kmetijstvo/a/9023760>

<https://www.kmetijskizavod-celje.si/aktualno/nasveti-za-zmanjsanje-odpadne-hrane-v-gospodinjstvu-2025-01-07>

<https://www.nasasuperhrana.si/clanek/uporabni-nasveti-za-manj-zavrzene-hrane/>

<https://okusno.je/triki-in-nasveti/zivila-ki-ne-sodijo-v-hladilnik.html>

https://www.vokasnaga.si/sites/www.jhl.si/files/dokumenti/kako_shranjevati_zivila_v_hladilniku_2.pdf

<https://bokashiorganko.com/sl/bokashi-academy>

Projekt Manj je več je sofinanciran s sredstvi Evropskega kmetijskega sklada za razvoj podeželja. Organ upravljanja, določen za izvajanje Programa podeželja Republike Slovenije za obdobje 2014-2020, je Ministrstvo za kmetijstvo, gozdarstvo in prehrano. Za vsebino je odgovoren LAS Bogastvo podeželja ob Dravi in v Slovenskih goricah.

The Less is more project is co-financed by the European Agricultural Fund for Rural Development. The governing body designated to implement the Rural Development Programme of the Republic of Slovenia for the period 2014-2020 is the Ministry of Agriculture, Forestry and Food. The content is the responsibility of LAG Bogastvo podeželja ob Dravi in v Slovenskih goricah.

