

Preventing Time-Temperature Abuse During Storage

Fact Sheet

When storing food:

The key to keeping food safe during storage is to keep it out of the temperature danger zone, the temperature range between 41°F and 135°F (5°C and 60°C). In this range, microorganisms that may be present on food can grow and reproduce, making it unsafe.

Contrary to popular belief, refrigerating or freezing food does not kill microorganisms. However, it does slow their growth. Refrigerators and freezers can only do their job if they are well maintained and food is properly stored.

Store deliveries as soon as they are inspected.

Put prepared food away until it is needed.

Do not overload refrigerators or line shelving with foil or paper.

This may prevent airflow and make the unit work harder to stay cold.

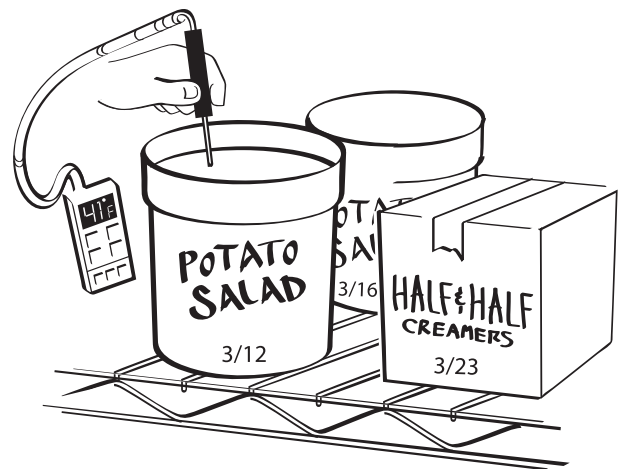
Check temperatures of stored food and storage areas regularly.

Randomly sample the internal temperature of refrigerated food with a calibrated thermometer.

Never place hot food in the refrigerator. This could warm up the refrigerator's interior enough to put other stored food into the temperature danger zone.

Check for change. Set refrigerators to the proper temperatures. The setting must keep the internal temperature of the food at 41°F (5°C) or lower.

Keep dry-storage areas cool and dry. Moisture and heat are the biggest dangers to dry and canned food. Keep the temperature of the storeroom between 50°F and 70°F (10°C to 21°C) and the relative humidity at 50 percent to 60 percent.



What's Wrong with This Storage Situation?

Directions: Try to figure out the mistakes made when storing food at the restaurant in the story below.

A shipment was delivered to Enrico's Italian restaurant on a warm summer day. Alyce, who was in charge of receiving for the restaurant, inspected the shipment and immediately proceeded to store the items. She loaded a case of sour cream on the dolly and wheeled it over to the reach-in refrigerator. When she opened the refrigerator, she noticed that it was tightly packed, however, she was able to squeeze the case into a spot on the top shelf.

Next, Alyce wheeled several cases of fresh ground beef over to the walk-in refrigerator. She noticed that the readout on the outside of the walk-in indicated 39°F (4°C). Alyce pushed through the cold curtains and bumped into a hot stockpot of soup as she moved inside. She moved the soup over and made a space next to the door for the ground beef. Alyce said hello to Mary, who had just cleaned the shelving in the unit and was lining it with new aluminum foil.

Alyce returned to the receiving area and loaded several cases of pasta on the dolly. She was sweating as she stacked the boxes on the shelving unit and gave a quick glance at the thermometer in the dry-storage room, which revealed that it was 85°F (29°C). When she was finished stacking the boxes, Alyce returned the dolly to the receiving area.

What storage mistakes were made at the restaurant?

Fill in the Phrase

Directions: Unscramble the answer to each clue and write it in the boxes provided. Fill in the secret message using the number under each box to find the right letter.

1. Overloading the refrigerator may prevent this.

WLAROIF

--	--	--	--	--	--	--	--

1 2 3 4 5 6 7

2. Along with heat, it is the biggest danger to dry and canned food in dry storage.

SEUTMRIO

--	--	--	--	--	--	--	--	--	--

8 9 10 11 12 13 14 15

3. Hanging thermometers should be placed in this part of a refrigeration unit to get a true reading of the air temperature inside.

TSERMAW

--	--	--	--	--	--	--	--

16 17 18 19 20 21 22

4. Placing this type of food in the refrigerator can put other stored food into the temperature danger zone.

OHT

--	--	--

23 24 25

5. You should randomly sample this to keep food safe in storage.

LNTAEINR **MTRUPEARETE**

--	--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

26 27 28 29 30 31 32 33
34 35 36 37 38 39 40 41 42 43 44

Secret Message: when storing food...

--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

--	--	--	--	--

13 21 35
12 23 44 14 36 6 19 29 41 15 30 11
9 4 28 38 31

Preventing Time-Temperature Abuse During Storage

Fact Sheet Optional Activity

Answers

1. What's Wrong with This Storage Situation?

The following mistakes were made at the restaurant:

- **Alyce placed the case of sour cream into an already overloaded refrigerator.**
Refrigerators should never be overloaded since this can prevent airflow and make the unit work harder to stay cold.
- **A hot stockpot of soup was stored in the walk-in refrigerator.**
Hot food should never be placed in a refrigerator since it can warm up the refrigerator's interior enough to put other stored food into the temperature danger zone.
- **Alyce stored several cases of ground beef next to the walk-in refrigerator door.**
Meat should be stored in the coldest part of a refrigerator, away from the door.
- **Mary was lining the walk-in refrigerator shelving with aluminum foil.**
You should never line refrigerator shelving with foil or paper since this may prevent airflow and make the unit work harder to stay cold.
- **The temperature in the dry-storage room was 85°F (29°C) which is much too warm.**
The temperature of dry – storage areas should be between 50°F and 70°F (10°C and 21°C).

2. Fill in the Phrase

1. **AIRFLOW**
1 2 3 4 5 6 7

2. **MOISTURE**
8 9 10 11 12 13 14 15

3. **WARMEST**
16 17 18 19 20 21 22

4. **HOT**
23 24 25

5. **INTERNAL TEMPERATURE**
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

Secret Message: When storing food...

USE THERMOMETERS OFTEN
13 21 35 12 23 44 14 36 6 19 29 41 15 30 11 9 4 28 38 31