

Sustainable Food Safety 201



PEAK SHIFT

CHAPTER 8

Preparation

Prepare. Cook. Cool. Reheat.

FDA model Food Code 2026: 3-401.11; 3-501.14; 3-403.10-.11

BASIS: FDA FOOD CODE



Reset Before the Next Task

01 Separate

Keep raw poultry and its juices away from ready-to-eat ingredients.

02 Reset equipment

Clean, rinse and sanitize; then air-dry or adequately drain before ready-to-eat work. Do not cloth-dry.

03 Reset hands

Wash after raw-food work or dirty cleanup; use clean utensils or new gloves for the next task.

Changing gloves does not clean your hands or the cutting board.

2-301.14; 3-301.11; 3-302.11; 4-602.11(A); 4-603.16; 4-702.11; 4-901.11

BASIS: CODE + LABELED RESTAURANT PRACTICE

Wash Before the Knife Crosses the Rind

Before preparation

Thoroughly wash raw produce in water before cutting, mixing, cooking or ready-to-eat service.

Chemical washes

Use only permitted produce-wash chemicals under their applicable conditions.

After cutting

Cut melons, cut tomatoes and cut leafy greens require TCS controls.

An inedible rind can still carry contamination to the edible food.

1-201.10 TCS definition; 3-302.15; 3-501.16; 7-204.12

BASIS: FDA FOOD CODE

Use Additives Without Hiding a Problem

Permitted use

Use only approved additives at safe permitted levels.

Fresh raw produce

Do not apply sulfiting agents to fresh fruits and vegetables intended for raw consumption.

Honest presentation

Do not use color, lighting or additives to conceal the true appearance or quality of food.

Unsafe food

Discard or follow an approved reconditioning procedure where permitted; do not improvise a rescue.

A better appearance does not establish safer food.

Keep Salad and Batter Prep Controlled

Cold ingredients

Keep TCS ingredients under temperature control except during the permitted preparation process.

Small batches

Bring out only what the current task needs; return completed cold food promptly.

Raw ingredients

Egg or raw-animal-food batter is not ready-to-eat just because it looks mixed.

Preparation is an active task, not permission for all-day counter storage.

3-302.11; 3-301.11; 3-401.11; 3-501.16; 3-501.14(B)

BASIS: CODE + LABELED RESTAURANT PRACTICE

Egg Preparation Changes the Rule

One immediate order

Raw eggs broken and prepared for that order: 145 F for 15 seconds under the standard route.

Other raw-egg preparation

For batch eggs, the selected standard route is 155 F for 17 seconds.

Uncooked recipes

Use pasteurized eggs/products unless the recipe follows a specific lawful alternative.

A breakfast ingredient does not have one cooking rule for every use.

3-302.13; 3-401.11(A)(1)-(2),(D); 3-801.11

BASIS: FDA FOOD CODE

Eggs for Highly Susceptible Guests

Dressing and similar foods

Substitute pasteurized eggs or egg products in the listed recipes.

Pooled eggs

Pasteurized substitution is required unless a specific 3-801.11(F) exception is met.

Narrow exceptions

One immediate serving, qualifying immediate baking, or the specified HACCP-controlled process.

No time-only holding

Do not use time as the public-health control for raw eggs in an HSP establishment.

An exception for one omelet is not an exception for a breakfast tub.

3-801.11(B),(E),(F); 3-501.19(D)

BASIS: FDA FOOD CODE

Ingredient Ice Is Food

Ingredient ice

Use ice made from drinking water and keep it protected from contamination.

Cooling ice

Ice used against bottles, packages, food exteriors or cooling coils must not become an ingredient.

Clear appearance does not show what the ice has contacted.

Juice Treatment and the Guest Population

Packaged on site

Use the required HACCP treatment for a 5-log reduction, or the specified labeling and warning route.

HSP service

Warning-labeled untreated juice is not a substitute for the required protection.

Unpackaged on-site HSP juice

Process under the required HACCP plan and pathogen-reduction controls.

A warning communicates risk; it does not remove pathogens.

Choose the Thawing Route First

Refrigeration

Maintain the food at 41 F or below.

Running water

Use the full water, flow and food-time controls.

Microwave thawing

Transfer immediately to conventional cooking equipment without interruption.

As part of cooking

Cook from frozen through the applicable required cooking process.

A frozen center does not protect a warm outer surface.

Running Water Has Two Sets of Limits

Water setup

Completely submerge food; water is 70 F or below with flow that carries loose particles into overflow.

Ready-to-eat food

Thawed portions must stay at 41 F or below.

Raw animal food to be cooked

Thawed portions may be above 41 F for no more than 4 hours, including relevant prep or re-cooling time.

Water temperature alone cannot establish compliance.

Open the Fish Package at the Right Time

Refrigerator route

Remove qualifying fish from the reduced-oxygen environment before thawing.

Running-water route

Remove before thawing, or immediately upon completing permitted water thawing.

Applies to ROP fish labeled to stay frozen until use.

3-501.13(E), as amended December 2024; Annex 3, 3-501.13

BASIS: FDA FOOD CODE

145 F for 15 Seconds: Identify the Food

Ordinary fish and intact meat

145 F for 15 seconds, unless a different listed category or exception applies.

Raw eggs for one order

Broken and prepared in response to the order, then served immediately.

Verify the food

Measure the internal food temperature; a grill setting or browned surface is not proof.

Intact, ground, stuffed and whole-roast are different descriptions.

3-401.11(A)(1); 4-602.11(A)(4); 4-702.11

BASIS: FDA FOOD CODE

155 F Means 17 Seconds

Nonintact meat

Ground, injected or mechanically tenderized meat uses this selected standard route.

Other foods in this group

Ratites, comminuted fish and the specified comminuted game; eggs outside the immediate-order route.

Temperature plus time

All parts: 155 F for 17 seconds, or a complete Code-listed equivalent.

At 155 F, 15 seconds is short of this Code route.

1-201.10 nonintact meat; 3-401.11(A)(2)

BASIS: FDA FOOD CODE

An Equivalent Is a Complete Pair

145 F

Hold for 3 minutes for the 3-401.11(A)(2) food group.

150 F

Hold for 1 minute for that same group.

155 F

Hold for 17 seconds for that same group.

158 F

Instantaneous for that same group.

Do not borrow the time from a different temperature or table.

Poultry and Stuffed Foods: 165 F

Poultry and baluts

165 F in all parts; instantaneous under this cooking route.

Stuffed foods

Stuffed fish, meat, pasta, poultry and ratites use the 165 F route.

Stuffing and wild game

Stuffing containing fish, meat, poultry or ratites; specified wild game also use this route.

Ground poultry stays in the poultry category.

Plant Foods and Package Instructions

Plant food cooked for hot holding

135 F, or the applicable manufacturer-cooking provision in 3-401.15.

Other package cooking directions

2026: other packages from a food processing plant SHOULD be cooked unless uncooked use is allowed. Scored 2022+2024: commercial packages with cooking directions SHALL follow them before ready-to-eat use or unpackaged service, unless uncooked use is allowed.

Safety-cooking categories

Disclosed uncontrolled pathogen hazard: hazard-appropriate cooking.
Specified USDA safe-handling label: follow those directions or 3-401.11.

Frozen or commercially packaged does not mean ready-to-eat.

3-401.13; 3-401.15; 3-501.14

BASIS: FDA FOOD CODE

Whole Roasts Use Their Own Table

Selected roast pair

All parts at 145 F for 4 minutes.

Another listed pair

All parts at 130 F for 112 minutes.

Separate oven conditions

If oven-cooked, meet the oven-type and roast-weight requirements too.

145 F for 15 seconds is not the whole-roast table pair.

Match the Oven to the Roast

Still-dry oven

Under 10 lb: at least 350 F. At least 10 lb: at least 250 F.

Convection oven

Under 10 lb: at least 325 F. At least 10 lb: at least 250 F.

High-humidity oven

250 F or less is listed for either weight, with the table's specific humidity conditions.

Preheat and maintain the listed oven conditions; verify the food pair separately.

Microwave Cooking Is a Full Sequence

01 Distribute heat

Rotate or stir raw animal food throughout or midway through cooking; keep it covered.

02 Reach the endpoint

Heat every part to at least 165 F.

03 Finish the process

Let it stand covered for 2 minutes after cooking.

The microwave rule is not the ordinary fish-fillet cooking pair.

Partial Cooking Needs Prior Approval

01 Before starting

Obtain regulatory approval of the written noncontinuous-cooking procedures.

02 Initial heating

No longer than 60 minutes.

03 Immediately afterward

Cool under the cooked-TCS time/temperature limits, then hold at 41 F or below or frozen.

Partly cooking now and finishing tomorrow is a controlled process, not an improvised shortcut.

Unfinished Food Must Stay Identifiable

01 Identify and separate

Mark or otherwise identify food requiring completion; keep it separate from ready-to-eat food.

02 Complete cooking

Before sale or service, meet the applicable 3-401.11(A)-(C) process.

03 After completion

Serve, hold hot, use lawful time control, or cool again under the required limits.

A consumer advisory does not replace the required completion step.

Raw Fish Needs a Parasite-Control Route

Schedule 1

-4 F or below for at least 168 hours (7 days) in a freezer.

Schedule 2

-31 F or below until solid, then at -31 F or below for at least 15 hours.

Schedule 3

-31 F or below until solid, then at -4 F or below for at least 24 hours.

Marinating does not replace required freezing.

3-402.11(A); Annex 3, 3-402.11

BASIS: FDA FOOD CODE

Exemptions Need the Right Evidence

Listed product exemptions

Molluscan shellfish; scallop adductor-only product; listed tuna species; removed and rinsed fish eggs.

Qualifying aquaculture

Specified net-pen or land-based production plus formulated feed free of live infective parasites.

Records recap

Keep required freezing records or supplier statements for 90 days beyond service or sale.

Farm-raised or sushi-grade alone does not establish an exemption.

Disclosure and Reminder Do Different Jobs

Disclosure

Identify which animal-derived items are raw, undercooked or may contain those ingredients.

Reminder

Link those items to a permitted written risk reminder or written-information notice.

Eligibility first

An advisory cannot override HSP restrictions, parasite controls or the children's-menu meat limit.

A general warning with no identifiable affected items is incomplete.

3-401.11(C)-(D); 3-603.11; 3-801.11

BASIS: FDA FOOD CODE

The Intact-Steak Exception Is Narrow

Qualifying food

Whole-muscle intact beef steak from the specified source or supported by accepted evidence.

Cooking conditions

Top and bottom surfaces reach 145 F or above; every exterior surface shows cooked color change.

Population and handling

Not an HSP establishment; steak remains intact throughout preparation.

A tenderized steak or ground-beef patty is not this exception.

3-201.11(E), as amended December 2024; 3-401.11(C); 3-603.11(A)

BASIS: FDA FOOD CODE

The Guest and the Setting Both Matter

Highly susceptible population

Susceptible people receiving food in the care, health or other specified service setting.

Do not offer ready-to-eat

Prohibited raw or partially cooked animal foods, raw seed sprouts, or packaged food needing required cooking.

Protect preparation

Use required pasteurized ingredients and the stricter ready-to-eat handling controls.

A signed waiver or warning does not cancel the HSP safeguards.

1-201.10 HSP definition; 3-801.11(A)-(F); 3-401.15

BASIS: FDA FOOD CODE

Recognize a Specialized Process

Preservation

Smoking or adding components for preservation, not merely flavor; making food non-TCS.

Other listed methods

Curing, sprouting seeds/beans, shellfish life-support display tanks and specified custom animal processing.

Approval before use

Obtain the required variance; address hazards with scientific support and required plans.

A recipe name does not decide whether a variance is required.

3-502.11; 8-103.10-.12; 8-201.13-.14; December 2024 Supplement Annex 3, 3-502.11

BASIS: CODE + FDA EXPLANATORY GUIDANCE

Reduced Oxygen Needs Its Own Controls

Hazards	Control C. botulinum growth/toxin formation and L. monocytogenes growth.
Process examples	Vacuum packaging; sous vide cooking in a package; cook-chill packaging of hot cooked food.
No-variance routes	Meet all conditions; submit the required HACCP plan before implementation unless specifically exempt.
Otherwise	Resolve the required variance and process controls before starting.

A vacuum sealer and a refrigerator do not establish a compliant process.

1-201.10 ROP definition; 3-502.11(D); 3-502.12(A)-(F); 8-201.13
BASIS: FDA FOOD CODE

Build the Cooling Method Before Cooking

Shorten the heat path

Use shallow pans, smaller portions, or a listed depth of no more than 2 inches.

Move heat out

Use rapid-cooling equipment, an ice-water bath with stirring, or fresh ice as a planned ingredient.

Arrange and protect

Allow heat transfer; loosely cover, or leave uncovered only when protected from overhead contamination.

Ordinary route: verify food deadlines. A separate 2026 alternative needs regulatory approval.

Two Cooling Limits Share One Start

01 First stage

Ordinary cooked-TCS route: 135 F to 70 F within 2 hours.

02 Final limit

135 F to 41 F or below within 6 hours total.

03 Both must pass

Meeting one deadline does not cancel the other.

Six hours total, not two hours plus six more.

Read a Cooling Record as a Sequence

11:30 a.m.

135 F: start both clocks.

12:45 p.m.

68 F: first stage completed in 1 hour 15 minutes.

5:15 p.m.

40 F: final stage completed in 5 hours 45 minutes total.

This record meets both limits; a pan change would not restart either clock.

Ambient Ingredients Have a Four-Hour Rule

Different starting point

TCS food prepared from room-temperature ingredients, such as opened canned tuna or reconstituted food.

Required cooling

Reach 41 F or below within 4 hours.

Practical preparation

Pre-chill ingredients where useful; divide the finished food into an effective cooling setup.

No 135 F start here. Commercial rehydration instructions: follow the 2026 recommendation; TCS controls still apply.

Intervene While the History Is Known

Before a deadline

Improve a slow cooling method and keep the original clock.

Limited FDA guidance

For eligible cooked hot food above 70 F at 2 hours or less: reheat to 165 F for 15 seconds.

Restart condition

Restart with a different cooling method under the applicable corrective-action procedure.

This is limited guidance, not a universal food-rescue rule.

Annex 5, section 4(G)(7), physical PDF p.617; 3-501.14-.15; 3-701.11

BASIS: FDA CORRECTIVE-ACTION GUIDANCE + CODE

Know When the Guidance Calls for Discard

Cooked hot food

Ordinary route: above 70 F after more than 2 hours, or above 41 F after more than 6 hours: discard under FDA guidance.

Ambient-prepared food

Above 41 F after more than 4 hours: discard under FDA guidance.

Uncertain history

Keep out of service; do not invent a clock or assume reheating restores safety.

Cold now does not prove that cooling was safe earlier.

3-501.14; 3-701.11; Annex 5, 4(G)(7), physical PDF p.617; Annex 3, 3-403.11

BASIS: FDA CORRECTIVE-ACTION GUIDANCE + CODE

Reheating Starts With the Next Use

Individual order

Properly cooked and refrigerated food prepared for immediate service after that order has no minimum reheat endpoint.

Batch for hot holding

Use the applicable hot-holding reheating rule before holding the batch.

Immediate service is a specific situation, not a synonym for soon.

House-Made Food for Hot Holding

Conventional reheating

Cooked, cooled TCS food: all parts reach at least 165 F for 15 seconds.

Speed

No more than 2 hours while the food is between 41 F and the required endpoint.

Then hold

Transfer to compliant hot holding after the reheating process is complete.

135 F hot holding is not this reheating endpoint.

3-403.11(A),(D); 3-501.16(A)(1); Annex 5, 4(G)(6)

BASIS: FDA FOOD CODE

Qualifying Commercial Ready-to-Eat Food

Product conditions

Ready-to-eat TCS food commercially processed and packaged in a plant inspected by its regulator.

For hot holding

Heat to at least 135 F; no more than 2 hours between 41 F and that endpoint.

Not the same case

Raw packaged food or restaurant-cooked leftovers do not qualify merely because ingredients were purchased.

Confirm ready-to-eat status, processing source and intended use.

3-403.11(B)-(D); 3-401.15

BASIS: FDA FOOD CODE

Microwave Reheating and Roast Exceptions

Ordinary microwave hot-holding reheat

165 F throughout; stir or rotate, cover, and stand covered for 2 minutes.

Commercial exception

Qualifying inspected-plant ready-to-eat food retains the separate 135 F route.

Remaining unsliced roast

A roast cooked under 3-401.11(B) may use that roast's oven and food time/temperature conditions.

Do not combine pieces of different reheating routes.

Make the Preparation Decision

01 Identify

Food state, process, population and intended next use.

02 Match

Choose the complete time/temperature route and every condition that goes with it.

03 Verify

Measure the food, keep a reliable history and act on failed limits.

A safe next step cannot erase an unsafe earlier step.