



THE PET FOOD MANUFACTURING GUIDE

Balanced formulas. Safe ingredients. Every bag traceable.

From approved supplier to the bowl, and back again

A capability and evaluation guide for pet food and treat manufacturers who want supplier evidence, premix accuracy, kill-step records, testing, labels and trace in one connected record. Pet food is animal food: it has its own rules, separate from human food and supplements.



SUPPLIER TO BAG

NUTRIENTS AND PATHOGENS

TRACE AND RECALL

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v5ultimate.com

Photography is staged, with full protective clothing; worked examples and diagrams are illustrative, not V5 screenshots or customer data. Nothing here is legal or veterinary advice.

INSIDE THE GUIDE

Supplier to bowl, bag by bag.

Pet food plants turn grains, meals, fats and tiny amounts of vitamins and minerals into complete diets that an animal may eat every day for years. This guide follows one batch, PF-0833, an adult dog dry food at formula revision 11, and shows what each step must leave behind.

01 / FRAME

pp. 03–05

Rules, hazards, one day

U.S. Part 507 in detail, labelling, EU, GB and Canadian scope, AAFCO and FEDIAF, Codex; one production day.

02 / MATERIAL

pp. 06–08

Supplier to silo

Approved suppliers and specifications, receipts and sampling, storage, status and dates.

03 / MAKE

pp. 09–16

Premix, extrude, test, pack

Batching, micro-ingredients, the kill step, drying and coating, nutrient checks, testing and release, holds, bagging and labels.

04 / CONTROL

pp. 17–20

Fix, respond, change, train

Corrective actions, complaints, change control, qualified individuals and training.

05 / SUSTAIN

pp. 21–27

Equipment, trace, share

Extruders and dryers, scales and instruments, OEE, trace, mock recall, portals, records and AI.

06 / APPLY

pp. 28–36

Evidence map, tools, sources

Evidence map, four worksheets, roadmap, four-week evaluation and 17 linked sources.

Who it is for. Food safety and quality managers, preventive controls qualified individuals, plant and production managers, formulators and nutritionists, lab, packing and shipping teams at pet food and treat plants, and anyone choosing a system for them.

How to read it. The U.S. animal food rule is covered in most detail because its text is published in one place. EU feed law and voluntary schemes are described at framework level. Every operational page ends with a teal Where V5 fits panel.

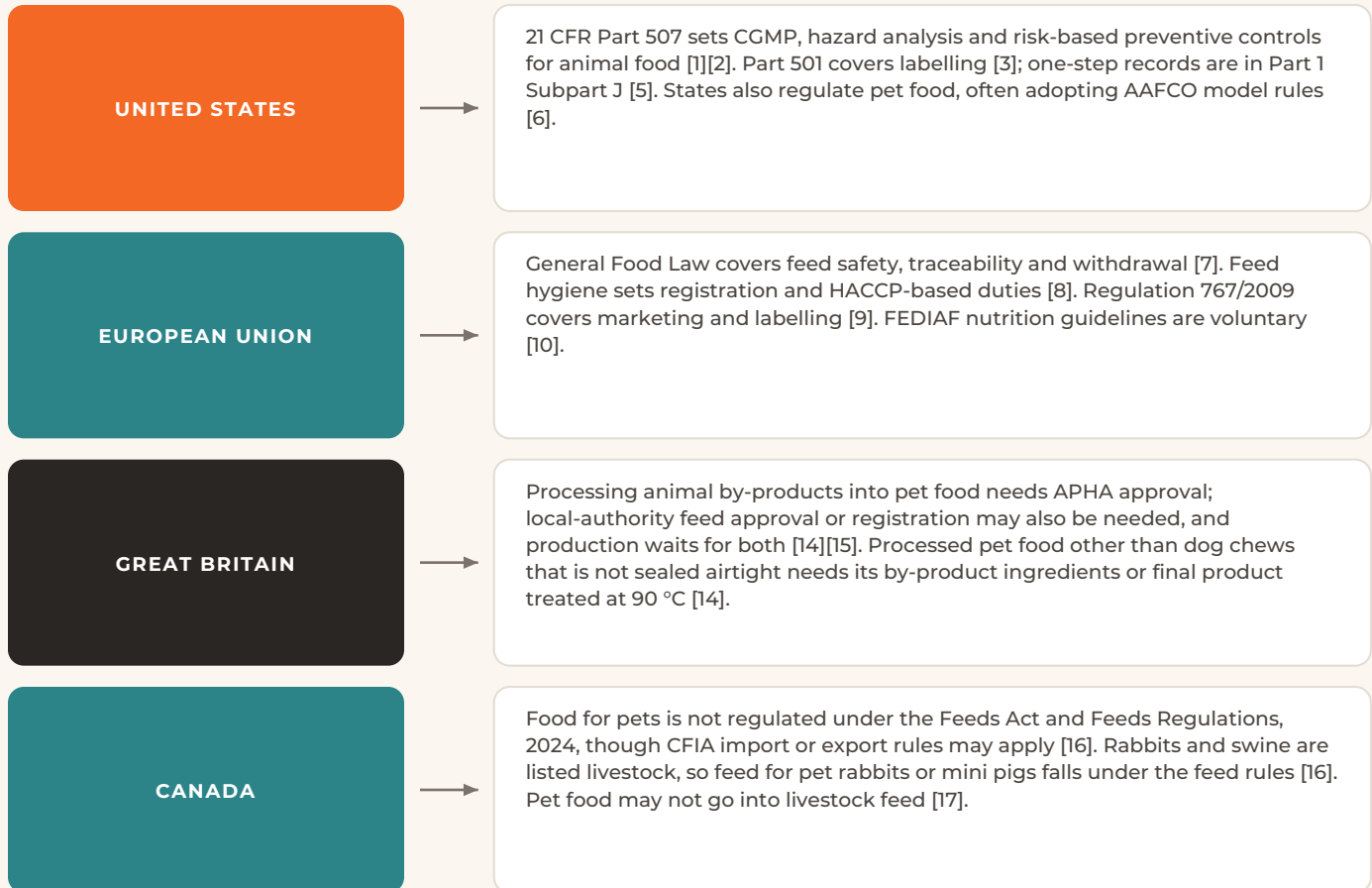
WHERE V5 FITS

V5 records the receiving, storage, batching, processing, testing, packing and shipping work your procedures define, and links it to lots, batches and customers. It does not write your food safety plan, formulate diets, set nutrient targets, approve labels or decide recalls. Your qualified people do.

FRAME / 01

Which rules reach your product?

Pet food is regulated as animal food in most markets. Which rules apply depends on where you make it, where you sell it and whether it is a complete diet, a treat or a supplement.



Not food or livestock feed

Pet food has its own rules. Do not assume human food, supplement or livestock feed rules apply.

Not every plant alike

Exemptions and modified requirements exist, for example for qualified facilities. Check your status.

Voluntary layers

Codex feeding code [11], ISO 22000 and GFSI schemes [12][13] are voluntary unless a customer requires them.

WHERE V5 FITS

Keep the food safety plan, specifications, procedures and certificates as controlled documents with revisions, owners and review dates. V5 does not decide which rules or exemptions apply to your plant.

Sources: [1], [2], [3], [5], [6], [7], [8], [9], [10], [11], [12], [13], [14], [15], [16], [17] (linked on pages 35–36)

FRAME / 02

U.S. Part 507: hazards to records.

The U.S. rule asks every covered facility to analyse its hazards in writing and control the ones that need it. The details below are from the current regulation text [1]; read the full sections for your facility.

SELECTED REQUIREMENTS, 21 CFR PART 507 [1]

507.25	Raw materials, ingredients and rework accurately identified; packaging safe and suitable
507.33	Written hazard analysis for each type of animal food, regardless of outcome
507.33(b)	Chemical hazards include nutrient deficiencies or toxicities
507.34	Preventive controls for hazards requiring one, incl. CCPs where they exist
507.38	Written recall plan, with assigned responsibility, where a hazard needs a control
507.53	A preventive controls qualified individual prepares or oversees the plan
507.208	Required records kept at least 2 years after they are prepared

THE RULE'S OWN EXAMPLES

507.33(b) names **inadequate thiamine in cat food** and **excessive vitamin D in dog food** as examples of nutrient hazards [1]. A premix error is a food safety hazard, not only a quality issue.

This is a summary, not the full text. Supply-chain programs, verification, validation and other duties are in the rule but not summarised here.

WHERE V5 FITS

V5 can hold the food safety plan and procedures under revision, run monitoring checks with limits at the kiosk, record corrective actions, keep supplier evidence, and keep records searchable for as long as you set. Your qualified individual owns the plan.

FRAME / 03

One production day.

A worked example: batch PF-0833, adult dog dry food, formula revision 11, packed in 12 kg bags. Times and values are examples only.

06:00	●	Pre-operational sanitation checked; line released
06:30	●	Grain, meal and fat lots called from silos and tanks
07:00	●	Vitamin and mineral premix weighed and checked
07:30	●	Mash mixed; sample taken
08:00	●	Extruder running; kill-step temperature monitored
10:30	●	Dried and coated kibble checked for moisture
12:00	●	Bagging: weights, metal detection, lot codes verified
16:00	●	Records reviewed; pallets placed on hold for release

Small amounts, big risk

Vitamins and minerals weigh grams in tonnes. A mistake there can harm animals.

Orange is where risk lives

Premix, kill step and metal detection are typical preventive controls.

Release after review

Product waits on hold until records and tests are reviewed.

WHERE V5 FITS

Batches sit on the schedule with formula revision, line and materials. Kiosk steps capture lots, weights, temperatures, checks and samples, and the batch record grows with them.

MATERIAL / 01

Approved suppliers, specified ingredients.

Animal proteins, grains, fats and premixes each bring their own hazards. A specification and supplier evidence decide what you accept, and in the U.S. a supply-chain program may be needed where the supplier controls a hazard [1].

Identity Ingredient, source, form	Nutrients Protein, fat, moisture	Microbial Salmonella where relevant	Chemical Mycotoxins, residues	Physical Foreign material
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Animal proteins Rendered meals and meat can carry Salmonella. Know whether your process or your supplier controls it.	Grains Mycotoxins such as aflatoxin vary by crop and season. Set limits and testing by risk.	Premixes Vitamin and mineral premixes carry nutrient hazards. Check each lot against its specification.
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WHERE V5 FITS

Approved supplier lists hold specifications, qualification documents, audits and scorecards, so receiving can see which supplier is approved. Suppliers can upload certificates through the supplier portal where configured; a person reviews each before it counts.

MATERIAL / 02

Receive, sample, identify.

Bulk trucks and bulk bags arrive by the tonne. Ingredients must be accurately identified [1], checked and, where needed, sampled before use.



Match the paperwork

Supplier, ingredient, lot, quantity and certificate match the order and the approved list.

Inspect the load

Clean, dry, sealed and free of pests. Check the previous load where your procedure asks.

Sample by risk

Take samples for mycotoxins, moisture or nutrients as your plan sets.

WORKED EXAMPLE: RECEIPT

Ingredient	Chicken meal, bulk truck, 24.0 t
Supplier / lot	Approved supplier S-021, lot CM-5530
Certificate	Protein, fat, moisture, Salmonella result
Inspection	Truck clean, seals intact
Status	Quarantine until certificate reviewed

WHERE V5 FITS

Receiving records supplier, lot, quantity, inspection and samples, and places material in quarantine until release. Certificate values can be read from an upload for a person to confirm; AI never releases a lot. Supported connected scales send weights.

Sources: [1] (linked on pages 35–36)

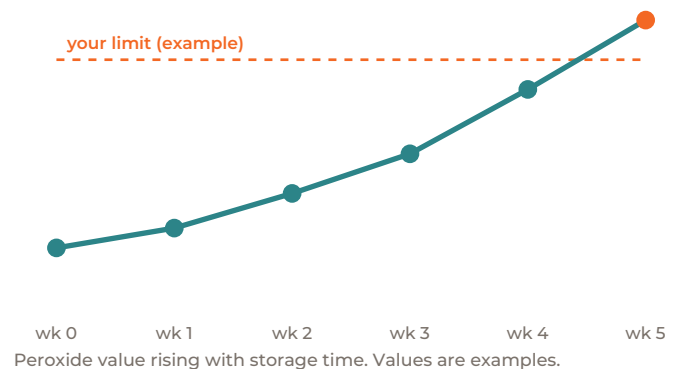
MATERIAL / 03

Store dry, clean and in date.

Silos, tanks and warehouses keep ingredients until use. Moisture invites mould and mycotoxins, pests contaminate, and fats go rancid. Status and dates tell people what they may use.



FAT TANK T-3 · PEROXIDE VALUE BY WEEK



Silos are locations

Record which lots went into which silo, so mixed lots stay traceable.

Pest control

Keep pest control records with the area they protect.

First expired, first out

Use dates, not just arrival order, where quality changes with time.

WHERE V5 FITS

Warehouse locations, including silos and tanks, lot status and expiry or retest dates support FEFO picking and holds; a lot past its date can be blocked at picking. Silo fills and draws can be recorded as moves between locations.

MAKE / 01

The kill step, monitored and kept.

In extruded dry food, cooking in the preconditioner and extruder is commonly identified as a control for Salmonella. Where it is a preventive control in your plan, it needs limits, monitoring, corrective actions and records [1].



KILL-STEP MONITORING, PF-0833			
TIME	PARAMETER	READING	STATUS
08:00	Temperature at critical point	Above limit	OK
08:30	Temperature at critical point	Above limit	OK
09:00	Temperature at critical point	Below limit	Divert
09:04	Corrective action	Product diverted	Recorded
09:10	Temperature at critical point	Above limit	OK

Limits come from validation

Your limits and parameters come from your own validation, not from a generic number.

What happens to diverted product

Decide in advance whether it is reworked, re-cooked or disposed of.

After the kill step

Recontamination after cooking is a major risk. Dryers, coaters and coolers need hygiene controls.

WHERE V5 FITS

Process checks run as kiosk steps or from supported connected equipment, with limits; a reading outside its limit can raise a nonconformance and hold the batch. V5 does not control the extruder or set kill-step limits.

Sources: [1] (linked on pages 35–36)

MAKE / 02

Grams that keep animals healthy.

Vitamins and minerals are added in tiny amounts. Too little thiamine or too much vitamin D can harm animals, and the U.S. rule names both as hazards [1]. Scanning and weighing at the micro station stop wrong items and wrong amounts.

MICRO-INGREDIENT CHECKS, PF-0833

Vitamin premix	Lot VP-118, 4.000 kg	OK
Mineral premix	Lot MP-204, 6.000 kg	OK
Choline chloride	Lot CC-77, 3.500 kg	OK
Vitamin D3	Wrong product scanned	Block
Taurine	Not in this formula	OK

Worked example: 4.000 kg premix in a 4,000 kg batch is 0.1%. A 10x error is 40 kg, or a 0.01x error is 0.4 kg; both are easy if the wrong scoop or scale is used.



Right scale

Weigh micro-ingredients on a scale with the resolution they need.

Second check

A second person or scale-linked check confirms high-risk additions.

Count the bags

Premix used should match bags issued and returned for each batch.

WHERE V5 FITS

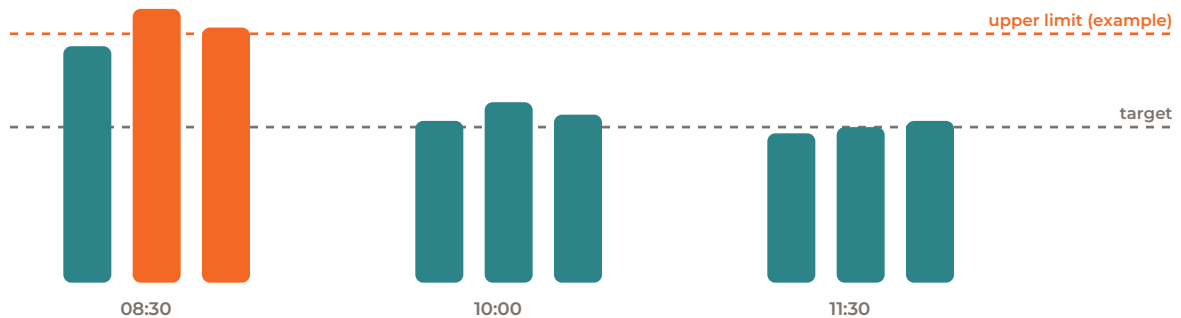
Weigh and dispense steps run at the kiosk with lot scanning, target and tolerance checks, and blocks on wrong or unreleased items. Supported connected scales send weights. Your nutritionist sets formula targets; V5 does not formulate diets.

MAKE / 03

Dry, coat and cool to specification.

After extrusion, kibble is dried, coated with fats and palatants, and cooled. Too much moisture invites mould; recontamination after the kill step is a well-known cause of pet food recalls.

PF-0833 · KIBBLE MOISTURE AFTER DRYER, %



Three samples per check. At 08:30 one sample is over the limit; dryer adjusted and product held.

Moisture and water activity

Your specification may use moisture, water activity or both. Record what you measure.

Coating hygiene

Fats and palatants are added after cooking. Their own supplier evidence matters.

Cooling and condensation

Warm kibble in cold bins can sweat. Watch cooling before bagging.

WHERE V5 FITS

In-process checks run as kiosk steps with limits; results feed control charts in quality, and an out-of-limit result can hold product. Coating lots are scanned and weighed like any other ingredient.

MAKE / 04

Formula against analysis.

The label promises a guaranteed analysis, and a complete diet promises balanced nutrition. Comparing the formula with lab results is how you know the bag matches the promise.

PF-0833 · LABEL VS RESULT			
NUTRIENT	LABEL	RESULT	
Crude protein	min 24%	25.8%	OK
Crude fat	min 14%	15.1%	OK
Crude fibre	max 4%	2.9%	OK
Moisture	max 10%	8.5%	OK
Vitamin D	per spec	Above spec	HOLD
Thiamine	per spec	In spec	OK

Guaranteed analysis

Label minimums and maximums are tested against your specification.

Nutrients of concern

Test the ones your hazard analysis names, such as vitamin D or thiamine.

Nutritional adequacy

Claims of complete and balanced nutrition follow AAFCO profiles in the U.S. or FEDIAF guidance in Europe [6][10].

Who sets targets

A qualified nutritionist sets formula targets and approves changes.

Ingredient variation

Ingredient nutrients vary; formulas are reviewed when they drift.

Out of specification

A failing result holds the batch until a qualified person decides.

WHERE V5 FITS

Lab & QC holds specifications and results per batch, including uploaded external certificates, and flags values outside limits. Formula revisions and approvals sit in document control. V5 does not formulate diets or approve nutritional claims.

MAKE / 05

Test, review, then release.

Many plants hold finished product until records are reviewed and tests such as Salmonella are back. Environmental monitoring in post-kill-step areas shows whether recontamination is under control.



RELEASE REVIEW, PF-0833

Ingredients	Released, in date
Kill step	Deviation diverted
Moisture	In spec after hold
Nutrients	Vitamin D above spec
Salmonella	Not detected
Decision	On hold for review

Test plans and limits come from your hazard analysis.

Environmental monitoring

Where your hazard analysis requires it, sample zones after the kill step and act on positives [1].

Test and hold

Hold product until results are back if your plan relies on finished testing.

Named release

A named person releases each batch after review.

WHERE V5 FITS

Lab & QC holds methods, test plans and results, including environmental monitoring sites; batch release is recorded by a named person with an electronic signature where your plan includes it. V5 does not release product by itself.

Sources: [1] (linked on pages 35–36)

MAKE / 06

A hold that actually holds.

A failed test, a kill-step deviation or a premix error means product must stop.
A hold that only lives in an email does not stop a truck.

A WORKED HOLD

PF-0833 tests above specification for vitamin D. The batch and its **290 bags** are held, along with the vitamin D3 lot used. Investigation finds the scan block at the micro station was overridden after a label was damaged. The batch is rejected; CAPA opens on override rules and label condition.

HOLD SCOPE, PF-0833

Bags in warehouse	290 held
Bags shipped	0
Vitamin D3 lot	VD-031, held pending review
Other batches with VD-031	PF-0829, PF-0831: tested in spec
Disposition	Rejected, disposal recorded

Hold by scope

Hold the batch and anything made with the same suspect ingredient or equipment.

One named decision

Only the roles you authorise can release, rework or reject, with a reason kept.

Overrides are events

Record who overrode a block and why; review overrides regularly.

WHERE V5 FITS

Lots and batches carry status; a held lot is blocked at picking and at the dispatch scan according to your rules. Holds link to the nonconformance that caused them, and release or rejection is recorded by an authorised person.

MAKE / 07

Bag, weigh, detect and count.

Bagging turns released bulk into product for sale. Check weighers protect the declared weight, metal detectors catch fragments, and counts prove every bag is accounted for.



BAG RECONCILIATION, PF-0833

Bulk to bagging	3,529 kg
Bags filled (12 kg)	290 = 3,480 kg
Check weigher rejects	2 bags (24 kg), reworked
Metal detector rejects	1 bag (12 kg), investigated
Samples and fines	12 kg
Unexplained	1 kg, within tolerance

Metal detection

Test the detector with test pieces at set times; record each test and any failure.

Declared weight

Your weights and measures obligations depend on the market.

Rejects tell a story

A metal reject points upstream: check screens, knives and magnets.

WHERE V5 FITS

Bagging runs as kiosk steps with check weights and metal detector tests; supported connected scales send weights. Bag and weight reconciliation is calculated at batch close, and a gap holds the batch until explained.

MAKE / 08

Labels that match the bag.

A pet food label carries the product name, guaranteed analysis, ingredients, feeding directions, nutritional adequacy statement where made, and the lot code. Wrong labels are a common cause of recalls.



WHAT TO CONTROL ON EVERY BAG

- Approved label version for this formula revision
- Ingredient list matches the formula
- Guaranteed analysis matches the specification
- Feeding directions and adequacy statement
- Net weight
- Lot code and best-before date
- Manufacturer or distributor details

United States

Federal labelling rules are in 21 CFR Part 501 [3]; many states apply AAFCO model labelling rules [6].

European Union

Regulation 767/2009 sets labelling and marketing rules for feed, including pet food [9].

Claims are regulated

Health and therapeutic claims are tightly limited. Your regulatory team approves claims.

WHERE V5 FITS

Label templates are controlled with revisions and approval; printing pulls lot and date from the batch, and the kiosk verifies the label version at the line. V5 does not write label claims or decide which elements a market requires.

Sources: [3], [6], [9] (linked on pages 35–36)

CONTROL / 01

Correct, then prevent.

The U.S. rule requires written corrective action procedures for when preventive controls are not properly implemented [1]. The same discipline works in any plant.

CORRECTION

Act on the spot: divert product, re-weigh, adjust the dryer, hold the batch. Record what happened, what was done and by whom.

CORRECTIVE ACTION

When a preventive control fails: find the cause, deal with affected product, prevent recurrence, and have a qualified person review the records.

WORKED EXAMPLE: ESCALATION

Month 1	Three environmental positives near the cooler	Corrections
Review	Trend reviewed; investigation opened	NC-118
Cause	Condensation from a roof leak over the cooler	Found
Action	Roof repaired; cooler cleaning frequency raised	Done
Verify	No positives in the next eight weeks of sampling	Closed

WHERE V5 FITS

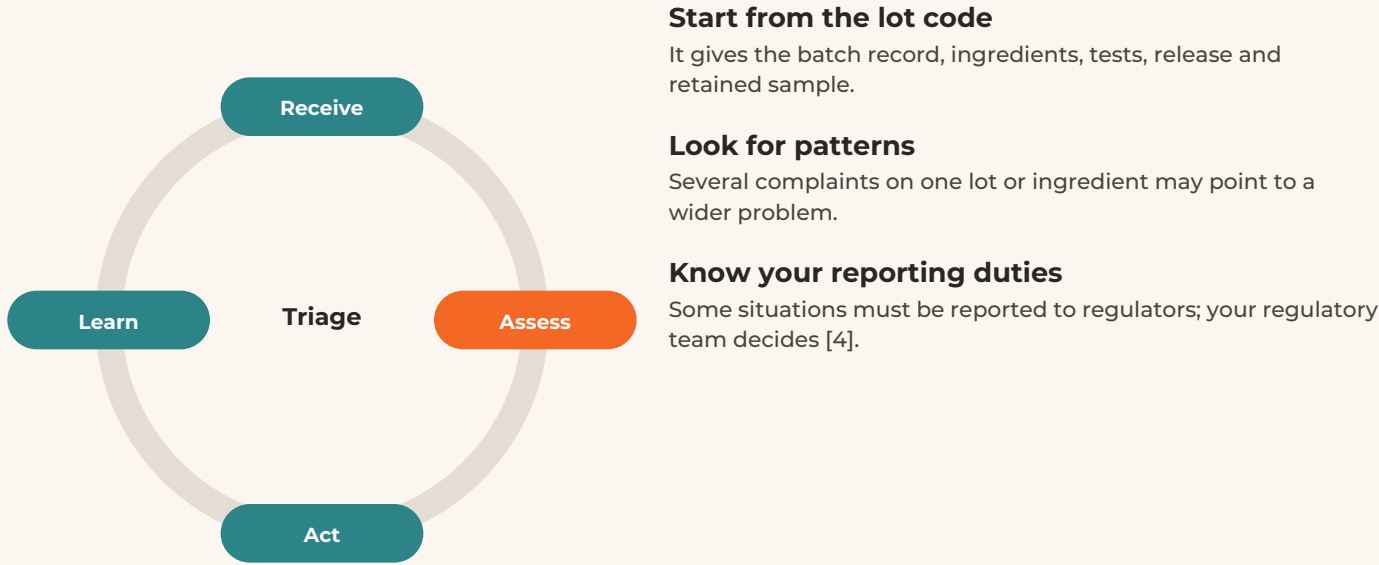
Nonconformances link to batches, lots, equipment and people, and can be escalated to CAPA with root cause, owners, due dates and effectiveness checks. AI can suggest a classification or draft a summary for a person to edit.

Sources: [1] (linked on pages 35–36)

CONTROL / 02

Complaints from owners and vets.

A pet owner reports vomiting; a vet reports several dogs with similar signs; a retailer finds torn bags. Each starts with the lot code and a decision about how serious it is.



WORKED EXAMPLE: COMPLAINT RECORD

Received	Owner reports dog refusing food, lot PF-0790
Assessment	No illness reported; palatability complaint
Linked lots	Palatant lot PL-415
Cause found	Palatant lot near end of shelf life
Action	FEFO enforced at picking; supplier informed
Status	Closed after review

WHERE V5 FITS

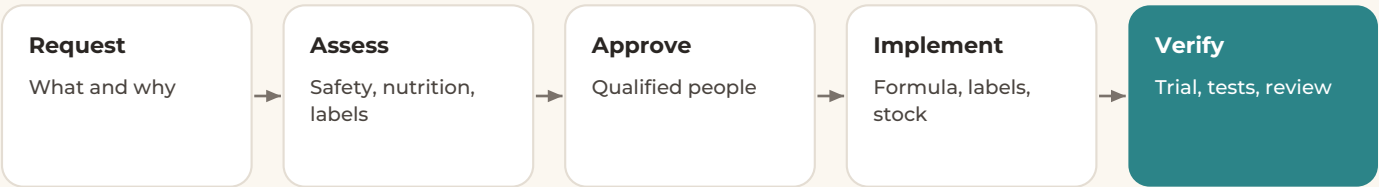
Complaints link to lots and retained samples, with categories, owners and due dates your team sets. CAPA links to its sources. V5 does not diagnose animals or decide reporting duties.

Sources: [4] (linked on pages 35–36)

CONTROL / 03

Change on purpose.

A new protein supplier, a reformulated premix, a new extruder die or a revised label can change safety, nutrition or claims. Changes need assessment before they reach production.



IMPACT QUESTIONS FOR CHANGE CC-031: NEW CHICKEN MEAL SUPPLIER

Hazards	Does the hazard analysis still hold?	Review
Supplier	Approved, with evidence?	OPEN
Nutrition	Does the formula need adjusting?	Nutritionist
Labels	Do ingredients or analysis change?	No
Effective	From which batch?	PF-0850

Reanalysis

Significant changes can trigger reanalysis of the food safety plan [1].

Labels follow change

Changed ingredients need updated labels and withdrawal of old stock on a set date.

Train before you run

Changed procedures are read and understood before the first changed batch.

WHERE V5 FITS

Change control links requests to formulas, specifications, labels and suppliers with impact assessment, approvals and effectivity; approved changes release new revisions and can assign read-and-understood training.

Sources: [1] (linked on pages 35–36)

CONTROL / 04

Qualified, trained and permitted.

A preventive controls qualified individual, operators, lab staff and packers each change the outcome. Who may release product, override a block or change a formula must be clear.

Qualified individual

One or more PCQIs prepare or oversee the food safety plan, validation and records review [1].

Qualified staff

People who make or hold animal food need the education, training or experience for their job [1].

Training to the task

Train on each procedure and instrument, with records of who was trained on which revision.

WORKED EXAMPLE: COMPETENCE AND PERMISSION MATRIX

	Weigh premix	Enter results	Release batch	Change formula
Operator	Trained	Not permitted	Not permitted	Not permitted
Lab analyst	Not permitted	Trained	Not permitted	Not permitted
QA manager	Not permitted	Not permitted	Trained	Not permitted
Formulator	Not permitted	Not permitted	Not permitted	Trained

Hygiene. Clothing, hand washing and movement between raw and cooked areas matter as much in pet food as in human food. Train on zones and record it.

WHERE V5 FITS

Document control keeps procedures under revision with read-and-understood training. The skills matrix can block untrained people at the kiosk where configured, and role permissions decide who can record, release or change formulas.

Sources: [1] (linked on pages 35–36)

SUSTAIN / 01

Look after extruders and dryers.

Dies, knives, screws, dryer belts and coaters wear. Planned maintenance and a record of what ran on each item protect product, and maintenance work itself can introduce foreign material.



EQUIPMENT RECORD, EXTRUDER EX-2

Last run	PF-0833, cleaned and released	OK
PM due	Die plate and knife inspection	4 days
Last repair	Knife replaced, parts counted	Done
Temperature probe	Calibration due	12 days
Next action	Screw wear noted at last clean	OPEN

Parts in, parts out

Count tools and parts after work in product areas, and release the line before restart.

Clean after work

Maintenance can bring in contamination. Clean and inspect after.

Probes are equipment too

Kill-step temperature probes need calibration like any instrument.

WHERE V5 FITS

Equipment records hold PM schedules, cleaning, repairs, spare parts and the batches each item ran. Work orders are tracked in maintenance. Predictive failure analytics are not offered today.

SUSTAIN / 02

Trust the scales and probes.

Micro-ingredient scales, batch scales, kill-step probes, moisture analysers and check weighers all need checks you can show.

DAILY AND PERIODIC CHECKS

Micro scale MS-1 (check weight)	Within your tolerance	OK
Batch scale BS-2	Calibration certificate current	OK
Kill-step probe TP-4	Reading high against reference	HOLD
Moisture analyser MA-1	Within your tolerance	OK
Check weigher CW-3	Daily check passed	OK

WHEN A PROBE IS IN DOUBT

TP-4 reads high against a reference. If the true temperature was lower, some product may have run below the kill-step limit. Which batches since the last good check? Records are reviewed, affected product held, and a qualified person decides on disposition. TP-4 is blocked until replaced and checked.

Identify every instrument

A unique ID on each, recorded with each reading, makes the look-back possible.

Right scale for the job

Use a scale with the resolution the weight needs.

Check, then trust

Record daily checks; a missed check is a gap in evidence.

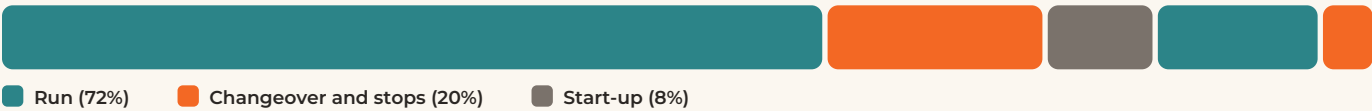
WHERE V5 FITS

Each scale and instrument can have an equipment record with calibration schedule, results, certificates and use history. Out-of-calibration equipment can be blocked at the kiosk, and checks link to the readings they produced.

Where the day goes.

Extrusion lines are expensive to stop and start. Changeovers between recipes, cleaning and unplanned stops decide output. A worked example shows the arithmetic.

EXTRUSION LINE 2 • ONE 8-HOUR SHIFT



WORKED OEE ARITHMETIC (WORKED EXAMPLE)

Availability	Performance	Quality	OEE
72%	92%	97.0%	64.3%
5.76 h run of 8 h planned	output ÷ rated rate	good kg of kg made	$0.72 \times 0.92 \times 0.970$

WORKED MASS BALANCE, MASH TO BAG (EXAMPLE)

4,000 kg mash at 25% moisture into the extruder; dried to 8.5% and coated with 250 kg fat. Expected dry output $4,000 \times 0.75 \div 0.915 + 250$ **3,529 kg**. Bagged 3,480 kg: the 49 kg difference is rework, rejects, samples and fines, reconciled on page 15.

Sequence recipes
Running similar recipes together cuts changeovers and cleaning.

Start-up waste
Measure it; it is often bigger than people think.

Fines and rework
Rework must be identified and traceable [1].

WHERE V5 FITS

Downtime reasons, step times, yields and OEE come from events your team and supported connected equipment record, with reports and dashboards where your plan includes them. AI demand and yield forecasting and process anomaly detection are coming soon, not available today.

SUSTAIN / 04

Trace one step back, one step forward.

U.S. rules require records of the immediate previous source and immediate subsequent recipient [5]; EU General Food Law sets the same one-step principle for feed [7]. A supplier warns that chicken meal lot CM-5530 tested positive for Salmonella. Where did it go?



The kill step question

If the batches passed a validated kill step with good records, risk differs from raw use. A qualified person decides.

Rework carries lots

Rework from one batch into another extends the trace. Record it.

Recall decisions

Your qualified people decide on recall and notifications.

WHERE V5 FITS

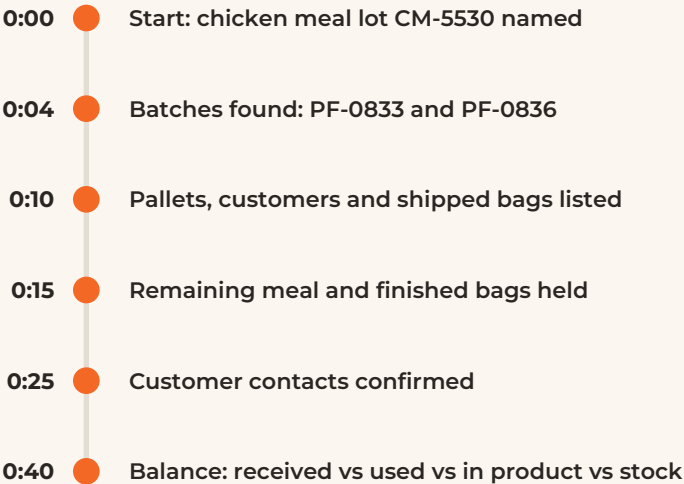
Genealogy links ingredient lots, including rework, to batches, pallets and shipments, so a trace runs forward from an ingredient lot or back from a lot code, with customers and quantities listed and exportable.

Sources: [5], [7] (linked on pages 35–36)

SUSTAIN / 05

Practise the recall plan.

Where a hazard requires a preventive control, the U.S. rule requires a written recall plan with assigned responsibility, covering notification of consignees and the public as appropriate [1]. Practising it shows whether it works.



BALANCE FOR CHICKEN MEAL LOT CM-5530

Received	24,000 kg
Used in PF-0833	1,000 kg
Used in PF-0836	1,000 kg
Other batches	18 batches, 18,000 kg
In silo	4,000 kg, held
Unaccounted	0 kg

Times are an example of what to measure, not a benchmark. A real meal lot may reach many batches; the exercise shows whether you can find them all quickly. Feed findings into CAPA.

WHERE V5 FITS

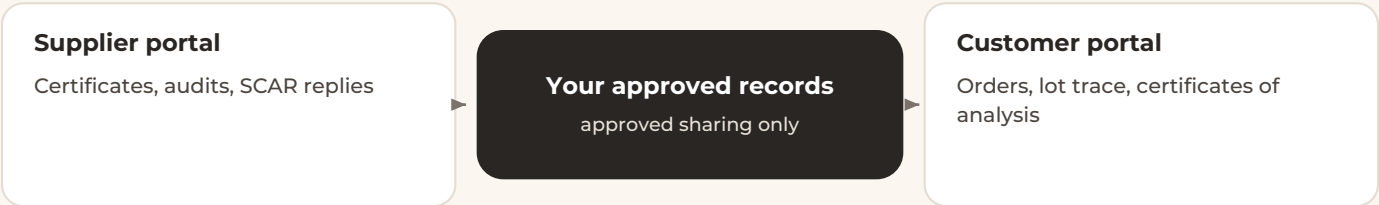
Trace reports list batches, pallets, customers and quantities from an ingredient lot or a lot code, and stock can be held from the trace. Mock recalls can be logged as exercises with times, results and findings that feed CAPA.

Sources: [1] (linked on pages 35–36)

SUSTAIN / 06

Suppliers, customers, shared well.

Retailers and co-packing clients ask for certificates and lot data; private-label brands want batch records; suppliers send certificates and audit reports. Each sees only what you approve.



Private label

When you make for a brand owner, agree who approves formulas, labels and release.

Certificates per lot

Send certificates with each delivery from the approved results.

Review before it counts

A supplier upload is a claim until a person reviews it.

A SHARING POLICY TO AGREE BEFORE ANYONE LOGS IN

Certificates of analysis	With each delivery	Customer QA
Lot trace for their orders	Agreed scope	Customer QA
Batch records (private label)	Agreed scope only	Brand owner
Other customers' formulas	Never	—
Supplier certificates and SCARs	Reviewed before they count	Your QA

WHERE V5 FITS

Customer and supplier portals give branded access to what you approve. EDI and ASN exchange (X12 850, 855, 856, 810) with GS1-128 SSCC labels is available where your plan includes it. Portal scope depends on configuration; check the current plan comparison.

SUSTAIN / 07

Trustworthy records. Honest AI.

Electronic records help only if they are made at the time, by a known person, with actual values, and if AI stays a helper under human control.

What a record holds

Who, what, which lot, the reading and limit, the instrument, and when. Corrections keep the original visible.

Keep them long enough

U.S. Part 507 records are kept at least 2 years [1]. Your customers or other rules may ask for longer.

Make them findable

A batch record, a certificate or a trace is only useful if it can be produced quickly.

AI CAN HELP

- Read certificate values for a person to confirm
- Draft a procedure or work instruction for approval
- Suggest a nonconformance classification or draft a summary
- Explain a lot's history in plain language
- Find records and screens faster

AI NEVER

- Formulates diets or sets nutrient targets
- Releases a batch or replaces your PCQI
- Writes label or health claims
- Diagnoses animals or decides a recall
- Predicts defects or yield today (forecasting is coming soon)

WHERE V5 FITS

Every record keeps who, what and when in an audit trail every plan can view; tamper-evident trails, electronic signatures and a validation pack are available where your plan includes them. AI features need configured provider access and human review.

Sources: [1] (linked on pages 35–36)

APPLY / 01

Evidence map.

One page to check that every theme an inspector, auditor or retailer may ask about has an owner and a record. Map it to the rules that apply to you [1][3][5][7][8][9].

THEME	TYPICAL EVIDENCE	WHERE IT LIVES IN V5	OWNER
Food safety plan	Hazard analysis, controls	Document control	PCQI
Suppliers	Specs, certificates, audits	Suppliers, portal	Purchasing
Receipts	Inspection, samples	Receiving	Warehouse
Storage	Status, dates, pests	Warehouse	Warehouse
Premix	Lots, weights, checks	Weigh & dispense	Production
Kill step	Monitoring, deviations	Kiosk checks	Production
Sanitation	Pre-op, cleaning	Kiosk checklists	Sanitation
Environment	Zones, results, actions	Lab & QC	QA
Nutrients	Label vs result	Lab & QC	QA
Release	Review, named sign-off	Release review	QA
Bagging	Weights, metal tests	Kiosk steps	Packing
Labels	Version, verification	Label control	QA
Trace and recall	Exercise records	Trace, exercises	PCQI
Training	Procedures, roles	Skills matrix	HR + QA

Plan inclusion varies; some areas need Professional or Enterprise. Confirm against the current plan comparison before you scope a project.

WORKSHEET 01

Could you defend this bag?

Pick one lot shipped last month. Find each record and time it. Mark Yes, Partly or No, then note the gap and its owner.

	YES	PARTLY	NO
Ingredients Every lot from an approved supplier, with evidence.	☐	☐	☐
Formula The formula revision used was approved.	☐	☐	☐
Premix Micro-ingredient lots and actual weights.	☐	☐	☐
Kill step Monitoring records with any deviations handled.	☐	☐	☐
Sanitation Pre-operational and post-kill-step hygiene records.	☐	☐	☐
Tests Moisture, nutrients and pathogen results.	☐	☐	☐
Release Named release after record review.	☐	☐	☐
Bagging Weights and metal detector tests.	☐	☐	☐
Label Label version matched formula and analysis.	☐	☐	☐
Shipments Customers, dates and quantities for every bag.	☐	☐	☐

NOTES AND OWNERS

WORKSHEET 02

Premix error drill.

Walk through a real or invented case: the wrong vitamin was added to a batch now in the warehouse. Mark Yes, Partly or No.

	YES	PARTLY	NO
Detection Would scanning or weighing have caught it?	☐	☐	☐
Overrides Can you see whether a block was overridden, by whom?	☐	☐	☐
Scope Can you find every batch that used the same lot?	☐	☐	☐
Hold Can all affected stock be held within an hour?	☐	☐	☐
Shipped Do you know what has already shipped, to whom?	☐	☐	☐
Testing Can you test retained samples quickly?	☐	☐	☐
Decision Is it clear who decides disposition?	☐	☐	☐
Notification Do you know who decides on customer and regulator contact?	☐	☐	☐
CAPA Will the cause be fixed, not just the batch?	☐	☐	☐
Records Will the whole story be in one place?	☐	☐	☐

NOTES AND OWNERS

WORKSHEET 03

Ask to see it work.

Questions for any software demonstration. Ask the vendor to show each one with your formulas and lines, not a slide.

	SHOWN	PARTLY	NOT SHOWN
Unapproved supplier Try to receive from an unapproved supplier.	☐	☐	☐
Certificate Upload a certificate; show what a person confirms.	☐	☐	☐
Wrong premix Scan the wrong micro-ingredient; show the block.	☐	☐	☐
Kill-step deviation Enter a low temperature; show the hold and action.	☐	☐	☐
Environmental positive Log a positive; show the follow-up.	☐	☐	☐
Release Try to ship before release.	☐	☐	☐
Label version Scan the wrong label version at the line.	☐	☐	☐
Mock recall Run a timed trace from an ingredient lot with an export.	☐	☐	☐
Rework Show rework carried into a later batch's trace.	☐	☐	☐
Audit trail Show who changed a recorded weight, when and why.	☐	☐	☐

NOTES AND OWNERS

APPLY / 02

Roll out in phases.

Start where value is visible and risk is contained, often receiving, premix and release for one line. Run old and new side by side until each phase is verified.

PHASE 1 Foundations

Food safety plan and procedures under revision, roles and training, equipment register for extruders, scales and probes.

PHASE 2 Material

Approved suppliers and specifications, receipts and samples, quarantine and release, silo and warehouse locations, FEFO.

PHASE 3 Make

Batching and premix with scanning and weights, kill-step and moisture checks, nutrient and pathogen results, named release; paper kept in parallel.

PHASE 4 Pack and control

Bagging and reconciliation, metal detection, label control, holds, corrective actions and CAPA, complaints, change control.

PHASE 5 Connect

Shipments, trace export, mock recalls, customer and supplier portals, EDI and ASNs, OEE review.

Keep formulation software separate if you have it. Least-cost formulation tools set recipes; plan how approved formula revisions move into production records before go-live.

WORKSHEET 04

Find your first improvement.

Score each area today: E evidenced, P partial, G gap. Start with the gap that carries the most risk to animals or customers.

	E	P	G
Supplier evidence Specs and certificates current	☐	☐	☐
Receipts Inspection and samples recorded	☐	☐	☐
Storage Status, dates, silo contents	☐	☐	☐
Premix Scanned and weighed	☐	☐	☐
Kill step Monitored, deviations handled	☐	☐	☐
Post-kill hygiene Zones and monitoring	☐	☐	☐
Nutrients Label vs result reviewed	☐	☐	☐
Release Named, after review	☐	☐	☐
Bagging Weights and metal tests	☐	☐	☐
Labels Version verified at line	☐	☐	☐
Trace Includes rework	☐	☐	☐
Mock recall Timed, documented	☐	☐	☐

NOTES AND OWNERS

APPLY / 03

A fair evaluation in four weeks.

A practical way to test any system with your own people and one real formula, without touching live records.

WEEK 1

Agree the formula, line and the five questions that matter most. Load suppliers, ingredients, procedures and specifications.

WEEK 2

Run a batch end to end with test data: receipt, storage, premix, extrusion, checks, release, bagging, shipping.

WEEK 3

Break it on purpose: unapproved supplier, wrong premix, kill-step deviation, out-of-spec nutrient, wrong label.

WEEK 4

Run a timed mock recall from an ingredient lot with an export. Review with every team.

Rules for the evaluation. Use test data only. Keep your current records and trace process live until a verified change is approved. Record what was shown, not what was promised.

ASK V5

“We make [dry / wet / treats / raw] food for [dogs / cats / other] on [extrusion / retort / baking] lines in [market]. Our hardest moment is [e.g. premix accuracy]. Which workflows should we evaluate first?”

Start a 7-day free trial, no card required, or ask V5 on v5ultimate.com.

WHERE V5 FITS

Try V5 with your own formula in a trial workspace using test data. The assistant can answer questions about features and plans; it does not give legal, regulatory or veterinary advice.

SOURCES

Keep the evidence close.

Primary sources behind this guide, October 2026. The source ledger records which were re-read for this edition. Click a title to open the publisher's page.

- | | | |
|-----|---|------------------------------------|
| [1] | <u>U.S. eCFR, 21 CFR Part 507: CGMP and preventive controls for animal food</u> | BINDING U.S. REGULATION |
| | https://www.ecfr.gov/current/title-21/chapter-I/subchapter-E/part-507 | |
| [2] | <u>FDA, FSMA final rule: preventive controls for animal food</u> | FDA GUIDANCE |
| | https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-pre... | |
| [3] | <u>U.S. eCFR, 21 CFR Part 501: Animal food labeling</u> | BINDING U.S. REGULATION |
| | https://www.ecfr.gov/current/title-21/chapter-I/subchapter-E/part-501 | |
| [4] | <u>FDA, Pet food</u> | FDA GUIDANCE |
| | https://www.fda.gov/animal-veterinary/animal-food-feeds/pet-food | |
| [5] | <u>U.S. eCFR, 21 CFR Part 1 Subpart J: Establishment and maintenance of records</u> | BINDING U.S. REGULATION |
| | https://www.ecfr.gov/current/title-21/chapter-I/subchapter-A/part-1/subpart-J | |
| [6] | <u>AAFCO, Association of American Feed Control Officials</u> | MODEL REGULATIONS (STATE ADOPTION) |
| | https://www.aafco.org/ | |
| [7] | <u>EU, Regulation (EC) No 178/2002: General Food Law</u> | BINDING EU LAW |
| | https://eur-lex.europa.eu/eli/reg/2002/178/oj | |
| [8] | <u>EU, Regulation (EC) No 1831/2003: Feed hygiene</u> | BINDING EU LAW |
| | https://eur-lex.europa.eu/eli/reg/2003/1831/oj | |
| [9] | <u>EU, Regulation (EC) No 1831/2003: Placing on the market of feed</u> | BINDING EU LAW |
| | https://eur-lex.europa.eu/eli/reg/2003/1831/oj | |

SOURCES

Sources, continued.

[10]	<u>FEDIAF, Nutritional guidelines and self-regulation</u>	VOLUNTARY INDUSTRY
	https://europeanpetfood.org/self-regulation/nutrition/	
[11]	<u>Codex Alimentarius, Codes of practice (incl. good animal feeding)</u>	INTERNATIONAL GUIDANCE
	https://www.fao.org/fao-who-codexalimentarius/codex-texts/codes-of-practice/en/	
[12]	<u>ISO 22000:2018 Food safety management systems</u>	VOLUNTARY INTERNATIONAL
	https://www.iso.org/standard/65464.html	
[13]	<u>GFSI, Global Food Safety Initiative</u>	VOLUNTARY BENCHMARK
	https://mygfsi.com/	
[14]	<u>APHA and Defra, Using animal by-products to make pet food</u>	GB REGULATOR GUIDANCE
	https://www.gov.uk/guidance/using-animal-by-products-to-make-pet-food	
[15]	<u>GOV.UK (APHA), Pet food plant approval application</u>	GB APPROVAL FORM
	https://www.gov.uk/government/publications/pet-food-plant-approval-application	
[16]	<u>CFIA, RG-1 Feed registration regulatory guidance</u>	CFIA GUIDANCE
	https://inspection.canada.ca/en/animal-health/livestock-feeds/regulatory-guidan...	
[17]	<u>CFIA, RG-3 Pet food not approved for livestock feed</u>	CFIA GUIDANCE
	https://inspection.canada.ca/en/animal-health/livestock-feeds/regulatory-guidan...	

How to read the status labels. Regulations are law in their jurisdiction. Regulator pages explain and apply them and may change. AAFCO publishes model rules that states may adopt. FEDIAF, ISO and GFSI are voluntary unless a rule or customer requires them.

SCOPE AND LIMITS

Practical orientation for evaluating pet food manufacturing and software; not legal, regulatory or veterinary advice, and not a list of every requirement. Rules depend on market, facility status and product type. Nutrient limits, pathogen limits, kill-step parameters, labelling details and reporting duties are deliberately not given; take them from current rules, your validation and qualified people. Values shown are examples. V5 capability statements reflect the V5 product reference reviewed on 1 October 2026 and depend on plan, configuration, devices and permissions. AI forecasting and anomaly detection are coming soon. V5 does not formulate diets, release product, write label claims or decide recalls, and does not by itself make you compliant.



Balanced formulas. Safe ingredients. Every bag traceable.

See pet food workflows at v5ultimate.com · Global edition · October 2026