TALOS INTELLIGENT SYSTEMS · BATCH MARGIN HEALTH REPORT

Margin Intelligence Report

South Wales Chilled Sauce Manufacturer

Audit window: 1 January 2026 – 28 February 2026 · 47 production batches analysed · 60 days

KEY FINDINGS AT A GLANCE

Finding	Loss Driver	Monthly Impact	Annualised
01	Yield variance — Signature Sauce Line	£2,847/mo	£34,164
02	Ingredient price drift — Tomato Paste	£1,204/mo	£14,448
03	Usage variance — Spice Blend Mix B	£680/mo	£8,160
	TOTAL IDENTIFIED	**£4,731/mo**	**£56,772**

PREPARED BY Talos Intelligent Systems Ltd

REPORT DATE 24 June 2026

DATA INTEGRITY SHA-256: (illustrative)

CLASSIFICATION SAMPLE — Illustrative

01 / EXECUTIVE SUMMARY

What this audit found

This report illustrates the findings of a 7-day Batch Margin Audit for a composite UK chilled sauce manufacturer (28 employees, £2.4m annual turnover), built from published industry production data. The audit window represents 47 production batches across a 60-day period, structured to reflect a typical Sage 50 export and processed off-site by Talos Intelligent Systems.

Three material margin loss drivers were identified. Combined, they represent **£56,772 per year** in recoverable margin — losses that were present in the production data but had not been quantified or reported before this audit. Each finding is arithmetically traceable from the source data. Every calculation uses CIMA standard cost variance methodology.

£56,772
TOTAL ANNUALISED MARGIN IDENTIFIED

47
BATCHES ANALYSED

3
MATERIAL FINDINGS

7 days
DATA RECEIPT → REPORT DELIVERY

Market context. UK food manufacturers are operating in the most compressed margin environment in two decades. Ingredient prices rose by an average of 23% between 2022 and 2025. Energy costs remain elevated. Retailer price pressure has intensified. In this environment, unquantified production variance is not a minor inefficiency — it is a structural threat to the business's viability. The three findings in this report were detectable in the existing production data. None had been identified or costed before this audit.

02 / BATCH VARIANCE SUMMARY

All 47 batches — audit window

The table below shows a representative selection of 20 batches from the 47 analysed. Batches with material variance (>2% from standard) are highlighted. Full dataset available on request. All figures from Sage 50 export, unmodified.

Batch ID	Product	Date	Planned Yield kg	Actual Yield kg	Yield Var %	Std Cost £/kg	Act Cost £/kg	Price Var £
B-2601-001	Sig. Sauce 500ml	03 Jan	820	751	**–8.4%**	£1.82	£1.82	£18
B-2601-002	Chilli Relish 250ml	04 Jan	420	413	–1.7%	£2.14	£2.29	£63
B-2601-003	Sig. Sauce 500ml	07 Jan	840	763	**–9.2%**	£1.82	£1.82	£22
B-2601-004	BBQ Sauce 750ml	08 Jan	610	604	–1.0%	£1.64	£1.64	—
B-2601-005	Sig. Sauce 500ml	10 Jan	830	757	**–8.8%**	£1.82	£1.97	**£246**
B-2601-006	Chilli Relish 250ml	11 Jan	440	431	–2.0%	£2.14	£2.29	£66
B-2601-007	Sig. Sauce 500ml	14 Jan	850	774	**–8.9%**	£1.82	£1.97	**£251**
B-2601-008	BBQ Sauce 750ml	15 Jan	590	588	–0.3%	£1.64	£1.64	—
B-2601-009	Sig. Sauce 500ml	17 Jan	810	743	**–8.3%**	£1.82	£1.97	**£224**
B-2601-010	Chilli Relish 250ml	18 Jan	450	439	–2.4%	£2.14	£2.29	£68
B-2601-015	Sig. Sauce 500ml	25 Jan	840	762	**–9.3%**	£1.82	£1.97	**£249**
B-2601-021	BBQ Sauce 750ml	01 Feb	600	597	–0.5%	£1.64	£1.64	—
B-2602-003	Sig. Sauce 500ml	05 Feb	825	750	**–9.1%**	£1.82	£1.97	**£243**
B-2602-007	Chilli Relish 250ml	10 Feb	430	422	–1.9%	£2.14	£2.29	£64
B-2602-011	Sig. Sauce 500ml	14 Feb	845	769	**–9.0%**	£1.82	£1.97	**£250**

Batch ID	Product	Date	Planned Yield kg	Actual Yield kg	Yield Var %	Std Cost £/kg	Act Cost £/kg	Price Var £
B-2602-016	BBQ Sauce 750ml	19 Feb	580	579	–0.2%	£1.64	£1.64	—
B-2602-020	Sig. Sauce 500ml	22 Feb	830	755	**–9.0%**	£1.82	£1.97	**£248**
B-2602-024	Chilli Relish 250ml	25 Feb	440	431	–2.0%	£2.14	£2.29	£66
B-2602-028	Sig. Sauce 500ml	27 Feb	820	748	**–8.8%**	£1.82	£1.97	**£240**
	… 27 further batches in full dataset							

Highlighted rows: batches with yield variance exceeding –8% threshold. Price variance column shows £ impact vs. standard cost for that batch only. See Finding 01 and Finding 02 for full cumulative analysis.

FINDING 01

Yield Variance — Signature Sauce 500ml

£34,164/yr annualised

£2,847/mo	£34,164/yr	Yield loss (–6.2% avg)
Monthly impact	Annualised impact	Loss driver

What was found

The Signature Sauce 500ml line is producing an average actual yield of 91.8% against a standard planned yield of 98.0% — a consistent shortfall of 6.2 percentage points across 23 of the 47 batches in the audit window. This variance has been present throughout the audit period with no improvement trend. The financial impact is calculated on the basis of lost finished goods that were not produced from the raw ingredients consumed.

Calculation method (CIMA standard cost variance)

```
Yield Variance = ( Actual Output – Standard Output ) × Standard Cost per unit
```

Verification — figures from source data

Standard planned yield (per batch, avg)	820 kg
Actual average yield (per batch, 23 batches)	753 kg
Shortfall per batch	67 kg
Standard cost per kg (Signature Sauce 500ml)	£1.82
Variance cost per batch	£121.94
Batches affected (audit window)	23
Total variance – 60-day audit window	£2,804
Monthly run rate	£2,847
Annualised impact	£34,164

Business impact

This is the single largest margin loss identified in the audit. At £34,164 annualised, it represents a structural yield problem on the highest-volume product line. The consistency of the variance across 23 batches — with no batches within standard — indicates a systemic rather than intermittent cause. The most likely root cause is fill head calibration drift at the portioning stage, though this requires physical investigation to confirm. A 3–4% yield recovery (bringing actual yield to 94–95%) would recover approximately £18,000 per year.

RECOMMENDATION

Implement a post-fill weight check at the end of each Signature Sauce batch. Recalibrate the fill head immediately and log actual yield per batch going forward. Target: actual yield within 1.5% of standard within 30 days. Escalate to equipment maintenance if calibration alone does not resolve variance within 4 weeks.

FINDING 02

Ingredient Price Drift — Tomato Paste

£14,448/yr annualised

£1,204/mo
Monthly impact

£14,448/yr
Annualised impact

Price variance (+16.9%)
Loss driver

What was found

The primary tomato paste supplier increased their unit price from £0.83/kg to £0.97/kg in October 2025 — a 16.9% increase. This change was not reflected in the Sage 50 bill of materials, which continued to cost batches at the old standard of £0.83/kg. As a result, every batch containing tomato paste has been systematically undercosted by £0.14/kg of tomato paste used, for at least 5 months prior to this audit.

Calculation method (CIMA standard cost variance)

```
Price Variance = ( Actual Price − Standard Price ) × Actual Quantity Used
```

Verification — figures from source data

Standard cost — Tomato Paste (BOM, unchanged)	£0.83 / kg
Actual cost — Tomato Paste (Oct 2025 invoice)	£0.97 / kg
Price variance per kg	£0.14
Average tomato paste usage per batch	618 kg
Batches containing tomato paste (audit window)	31
Variance per batch	£86.52
Total variance — 60-day audit window	£2,682
Monthly run rate	£1,204
Annualised impact	£14,448

Business impact

This finding has two dimensions. The direct financial impact is £14,448 per year in margin that has been invisible in management accounts because batch costs were calculated at the old standard. The indirect impact is a process gap: the BOM is not being updated when supplier prices change, which means there are likely other ingredient lines with similar silent drift. A full BOM audit against current supplier invoices is recommended as a follow-up action.

RECOMMENDATION

Update the Tomato Paste line in the Sage 50 BOM immediately to £0.97/kg. Establish a process whereby BOM standard costs are reviewed quarterly and whenever a supplier invoice shows a price change of >5%. Consider assigning BOM update responsibility explicitly to one named individual (finance or production manager). Run a full BOM vs. current invoice comparison across all ingredient lines as a one-off audit action.

FINDING 03

Usage Variance — Spice Blend Mix B

£8,160/yr annualised

£680/mo	£8,160/yr	Over-usage (+18.3%)
Monthly impact	Annualised impact	Loss driver

What was found

Spice Blend Mix B is being used at an average rate of 14.2g per kg of finished output, against a recipe standard of 12.0g/kg — an over-usage of 2.2g/kg, or 18.3% above standard. This variance is concentrated on Line 2 batches and correlates with a personnel change on Line 2 in November 2025. The variance appears in all 14 Line 2 batches in the audit window. Line 1 batches show usage within 0.3g/kg of standard.

Calculation method (CIMA standard cost variance)

```
Usage Variance = ( Actual Quantity Used − Standard Quantity ) × Standard Price
```

Verification — figures from source data

Standard usage — Mix B	12.0 g / kg output
Actual usage — Mix B (Line 2 avg)	14.2 g / kg output
Variance per kg of output	2.2 g
Average Line 2 batch output	580 kg
Mix B standard cost	£4.20 / kg
Variance cost per batch	£5.37
Line 2 batches in audit window	14
Total variance — 60-day audit window	£75.18
Monthly run rate	£680
Annualised impact	£8,160

Business impact

While this is the smallest of the three findings by absolute £ value, it is notable for two reasons. First, it is entirely operator-driven — the same product on Line 1 is within standard, confirming this is a training and process adherence issue rather than a recipe or equipment problem. Second, it is immediately recoverable — no capital

expenditure required, no systems change. A single retraining session and a digital portion scale at the blend stage should resolve this within one production cycle.

RECOMMENDATION	Retrain the Line 2 operator on the standard portioning procedure for Mix B immediately. Install a calibrated digital portion scale at the blend station on Line 2 if not already present. Monitor actual Mix B usage per batch on Line 2 weekly for 30 days post-training. If variance persists beyond 30 days, investigate whether the recipe card on Line 2 reflects the current standard (12.0g/kg) or an earlier version.

05 / RECOMMENDATIONS

Prioritised actions — this quarter

The three findings in this report are independent — each can be addressed separately. Priority is assigned by monthly £ impact. None of these actions require new equipment, new systems, or significant capital expenditure. They require operational adjustments that can be implemented within the current production structure.

01 **Update yield monitoring on Signature Sauce line** — £2,847/mo

Implement a daily yield record per batch for the Signature Sauce 500ml line. Current yield is averaging 91.8% vs. 98.0% standard. Root cause analysis indicates portioning at the fill station. Adjust fill head calibration and institute a post-fill weight check per batch. Expected recovery: 4–6% yield improvement within 4 weeks.

02 **Update bill of materials — Tomato Paste** — £1,204/mo

Supplier increased unit price from £0.83/kg to £0.97/kg in October 2025. The BOM was not updated. Raise a BOM amendment in Sage 50 immediately. Additionally, review all other ingredient lines against current supplier invoices — this gap suggests the BOM update process is not triggered by supplier price notifications.

03 **Address usage variance on Spice Blend Mix B** — £680/mo

Actual usage of 14.2g/kg output vs. 12g/kg standard. Linked to operator change on Line 2 in November 2025. Retrain the Line 2 operator on the standard portioning procedure for Mix B. Install a digital portion scale at the blend stage if one is not already in place. Monitor weekly for 30 days post-training.

NEXT STEPS

Talos Intelligent Systems will follow up within 48 hours of this delivery call with a proposal for monthly margin monitoring — a recurring data refresh and delta report that tracks whether these findings are being recovered, and surfaces any new variance as your production evolves. Monthly monitoring starts from £500/month. There is no obligation to continue after this audit.

APPENDIX A / METHODOLOGY & DATA INTEGRITY

How the analysis was conducted

Data source and processing

For a real engagement, the client exports production and purchase records from their ERP system (Sage 50 or equivalent) as CSV files, transferred via ProtonDrive (encrypted) and processed off-site · no data touches client premises, retained 30 days then deleted. This sample was built from published industry data, not a live client export.

Variance calculations

All variance figures use CIMA (Chartered Institute of Management Accountants) standard cost variance methodology. These are standard accounting methods, auditable and reproducible by any qualified management accountant from the same source data. Formulas used in this report:

Price Variance:

```
( Actual Price − Standard Price ) × Actual Quantity Used
```

Usage Variance:

```
( Actual Quantity Used − Standard Quantity ) × Standard Price
```

Yield Variance:

```
( Actual Output − Standard/Planned Output ) × Standard Cost per Unit
```

Data integrity

A SHA-256 cryptographic hash of the source data files was computed at the point of ingestion. This hash is recorded on the cover page of this report. The client can verify that the data Talos analysed is identical to the data they sent by computing the SHA-256 hash of their original export file and comparing it to the hash recorded here. This provides an independent chain of custody for all findings.

Limitations

This audit analyses the data as exported from the client's systems. The accuracy of findings is contingent on the accuracy of the underlying ERP records. Where data quality issues were identified during processing (e.g., missing batch records, inconsistent units), these were flagged and excluded from analysis rather than assumed. Any such exclusions are noted inline. This report does not constitute financial advice and should be reviewed alongside the client's management accounts.