MCP SERVER | NO CODE | CLOUD HOSTED

Yield Calculator MCP

Know your exact yield before you prep anything.

Yield Calculator determines exactly how much usable product you'll get from raw ingredients. It estimates expected waste—from trimming fat on beef to peeling potatoes—allowing chefs and inventory managers to accurately adjust recipes and minimize food cost losses before they even start prep.

A+ Quality Score 100/100

yield | waste-reduction | food-costing | ingredient-prep | kitchen-efficiency

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vinkius.com/mcp/yield-calculator

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

Yield Calculator MCP

3 tools available
Cloud-hosted on Vinkius

Running a professional kitchen means managing costs, and nothing hits the bottom line harder than unexpected food waste. This MCP helps culinary teams figure out exactly what usable material they're left with after prep work like cleaning, peeling, or trimming. Need to know if 10 pounds of whole chicken will actually yield enough breast meat? You can calculate that instantly. It also lets you check a full list of ingredients against a known registry before starting inventory counts. If you're managing complex orders involving dozens of different items, the system aggregates losses across all materials in one go. This kind of detailed resource management is exactly what Vinkius built this MCP to handle, giving your agent precise figures so you can plan meals and purchase supplies without guesswork.

Core Capabilities

01 — Estimate ingredient yield

Calculate the expected usable weight and waste for a single raw item.

02 — Tally total batch loss

Aggregate the estimated usable mass and total waste when working with multiple different ingredients.

03 — Search ingredient catalog

Find specific items or categories within the master ingredient registry.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/yield-calculator** — connect your AI agent in three steps.

01 Start by using search to locate a required item in the ingredient registry.

02 Input the starting weight and the known yield factors for that item into the calculation tool.

03 The system delivers two precise numbers: the total usable mass and the calculated amount of unavoidable waste.

The bottom line is you get accurate, predictable metrics on how much raw material turns into final product.

Built For

This MCP is essential for anyone managing high-volume food production or inventory. If your daily routine involves calculating cost percentages based on prep loss—whether you run a commercial kitchen, manage institutional dining services, or oversee large catering operations—you need this. It stops guesswork from costing money.

Executive Chef

Determines the maximum usable yield of protein sources before finalizing a menu and setting purchase orders.

Sous Chef / Prep Cook Lead

Calculates total expected waste when prepping large batches of vegetables or poultry to ensure enough product remains for service.

Inventory Manager

Verifies required stock levels by running loss calculations on bulk deliveries across multiple commodity groups.

What Changes When You Connect

01 Stop over-ordering. By running single calculations using `calculate_ingredient_yield`, you get accurate usable figures, meaning less waste and lower food costs.

02 Manage complex menus easily. Use `calculate_batch_loss` to combine multiple ingredients—like onions, potatoes, and celery—and see the total loss in one go.

03 Never guess on stock. Use `search_ingredients` first to verify that an item is available in your registry before you plan a menu or purchase supplies.

04 Reduce waste tracking time. Instead of manual spreadsheets, simply send your list of ingredients and let the system calculate all losses using `calculate_batch_loss`.

05 Streamline purchasing decisions. Accurate yield data means you order exactly what you need, minimizing spoilage from excess stock.

Real-World Applications

Adjusting recipes after a poor harvest

The Head Prep Cook needs to scale down a recipe because the potato delivery was smaller than expected. They use `calculate_ingredient_yield` on the new weight, determining that they only have 20% usable mass instead of the standard 35%. This instantly forces them to adjust the entire batch recipe before cooking begins.

Inventory check for a large catering event

The Inventory Manager needs to confirm total resources for a three-day buffet. They use `calculate_batch_loss` on beef, chicken, and assorted vegetables, getting one number that represents the combined usable mass and overall waste footprint.

Finding alternatives during menu development

The Executive Chef wants to swap out a primary ingredient but isn't sure what else is available. They use `search_ingredients` and quickly pull up viable, high-yield alternatives from the registry for immediate comparison.

Costing a seasonal special

The Sous Chef develops a new dish based on wild mushrooms and pork shoulder. Using `calculate_ingredient_yield` separately on both items allows them to calculate precise, accurate food costs, making the menu profitable from day one.

Patterns to Avoid

Calculating loss item by item

✗ AVOID

A user calculates yield for 2kg of onions, then runs a second calculation for 3kg of carrots. They end up with two separate reports and must manually add the waste percentages together.

✓ INSTEAD

Instead, group all materials into one request using `calculate_batch_loss`. This function handles multiple ingredients simultaneously, providing a single total loss figure immediately.

Guessing required inputs

✗ AVOID

A user tries to calculate yield for an ingredient but forgets the starting weight or the correct yield factor percentage.

✓ INSTEAD

Always start by using `search_ingredients` to pull up the full item details. This confirms the registry data and ensures you have all necessary parameters before running any calculation.

Using a general ledger for prep loss

✗ AVOID

The user tracks waste in a standard spreadsheet, which is slow and doesn't account for varying yield rates across different batches or suppliers.

✓ INSTEAD

Use `calculate_ingredient_yield`. It applies specific, established culinary factors to your input weight, giving you an estimate that reflects real-world kitchen losses.

The Right Fit

Use this MCP if your primary problem is quantifying physical material loss and adjusting purchasing or recipes based on the starting raw weight. You need to know: 'If I start with X pounds of Y, how much usable product will remain?' This tool handles that yield-to-usable mass calculation perfectly, especially when you have multiple items like a full prep list. Don't use this if your main goal is financial accounting (e.g., calculating labor hours or overhead costs); for that, you need dedicated cost management software. Also, don't rely on it to track *actual* waste; it gives you the *expected* loss based on standards. If you just need a quick menu idea and aren't worried about ingredient availability, any general database would work, but if you care about the bottom line, this is your tool.

The Guesswork of Food Waste

Every kitchen manager knows the pain: running a massive prep list and having to manually track how much usable product they get from every item. You open up spreadsheets, copy-paste weights, and spend time cross-referencing yield percentages for beef trim vs. potato peeling loss. It’s slow, tedious work that eats into your day.

With this MCP, you skip the manual labor entirely. Instead of filling out multiple columns of estimates, you feed the required inputs to the system. You get a clean, instant report detailing exactly what usable mass and how much total waste results from everything on your list.

Calculate Ingredient Yield

Manual yield calculation involves looking up ingredient type, cross-referencing supplier data for typical trim rates, and then doing the math yourself. It's a messy process prone to simple human errors that can throw off an entire menu’s cost estimate.

Now, you simply name the raw material and provide the input weight. The system handles all the complex factors instantly, giving you a rock-solid, reliable number for usable product. You stop guessing and start planning.

Yield Calculator: 3 Tools

These tools allow you to search ingredients, calculate yield for single items, or aggregate losses across entire batches of materials.

#	TOOL	DESCRIPTION
01	`calculate_batch_loss`	Calculates the total waste and usable mass when grouping together several ingredients.
02	`search_ingredients`	Searches the central ingredient registry to find specific items or categories needed for prep planning.
03	`calculate_ingredient_yield`	Calculates the anticipated usable weight and waste amount for a single, specified raw ingredient.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U How much usable meat will I have from 5kg of whole chicken?

From 5kg of whole chicken, you can expect approximately 3.4kg of usable meat and 1.6kg of waste.

U Calculate the total waste for 2kg of onions and 3kg of potatoes.

The total waste produced from 2kg of onions and 3kg of potatoes is approximately 0.7kg.

U Search for any ingredients related to 'beef'.

The registry contains the following beef items: Beef Ribeye (85% yield), Beef Brisket (70% yield).

Frequently Asked Questions

01 **How does the Yield Calculator MCP use calculate_batch_loss?**

You provide one list of several ingredients and their weights. The tool then processes them all together to give you a single, comprehensive figure for total usable mass and aggregate waste.

02 **Can I find out what kind of beef I have using search_ingredients?**

Yes, `search_ingredients` searches the entire registry. You can look up 'beef' or specific cuts to see which items are available for calculation and planning.

03 **What is the difference between calculate_ingredient_yield and calculate_batch_loss?**

`calculate_ingredient_yield` focuses on one item at a time, giving you detailed loss metrics for that single ingredient. `calculate_batch_loss` aggregates these losses across many different items.

04 **Is the Yield Calculator MCP useful if I only have potatoes?**

Absolutely. You can use `calculate_ingredient_yield` specifically on potatoes, giving you a precise calculation of usable mash weight and expected waste based on typical prep loss factors.

05 **Does the Yield Calculator MCP handle international ingredient names?**

The system draws from a centralized registry, allowing you to search for ingredients by their common name or established code, regardless of your local language preference.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"yield-calculator": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

Yield Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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Endpoint	`https://edge.vinkius.com/{token}/mcp`

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