

HerbalTrace Batch Traceability Flow

Complete Visual Documentation - Generated December 5, 2025

ðŸ”„, Batch Traceability - Visual Flow Diagram

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HERBALTRACE BATCH

Immutable Blocks

[illegible]

ðŸŒƒ STAGE 1: FARMER COLLECTION

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â", FARMER â", â€¢ Logs in to Farmer I

â", Dashboard â", â€¢ Creates Collection

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â", STORED IN DATABASE â", â€¢ Table:

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â", Dashboard â", â€¢ Sees assigned batch.

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â", LAB VIEWS BATCH

[illegible]

BATCH-ASHWAGANDHA-20251205-3847

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 \hat{a}'' ,

Batch Details:

Species: Ashwagandha

â", â"œâ"€ Total: 150 kg

â", â"œâ"€ Status: Assigned for Testing

â", â""â"€ Collections:

â", â€¢ COL-1733414250-a7f8b9c2

â", Farmer: Raj Kumar

â", Harvest: Dec 1, 2025

â", Location: 23.45Â°N, 77.89Â°E

â", Photos: [view] ðŸ" .

â",

â", â€¢ COL-1733414280-b8e9c3d4

â", Farmer: Priya Sharma

â", Harvest: Dec 1, 2025

â", Location: 23.46Â°N, 77.91Â°E

â", Photos: [view] ðŸ" .

â", ðŸ"¬ Quality Control â", â€¢ Moi

â", â€¢ Pestic

â", â€¢ DNA Auth.

â€¢ Microbia

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â", LAB SUBMITS RESULTS â", Overall Re

â'', Grade: A

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QC TEST RECORD CREATED

â",

â", Test ID: QC-TEST-20251205-7821

â", Batch ID: BATCH-ASHWAGANDHA-20251205-

â", Lab: GreenLab Pvt Ltd

â", Date: Dec 5, 2025

â", Result: PASS âœ"

â", Grade: A

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â", LAB SEES: â",

â", âœ" Batch ID (same) â", BATCH-AS

Test Results

â", âœ" Blockchain TX â", tx-qc-gh

â", âœ" Certificate URL â", [Download

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 \hat{a}'' , $\hat{a}^{-1/4}$

[TO PROCESSOR] \hat{s}^{TM}_i , ☐

STAGE 4: PROCESSING

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â", PROCESSOR â", â€¢ Logs in to Processo

â", Dashboard â", â€¢ Sees approved batch.

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â", PROCESSOR VIEWS BATCH

[illegible]

BATCH-ASHWAGANDHA-20251205-3847

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â",

â", âœ" Farmer Collections (3)

â", âœ" Lab Results: PASS - Grade A âœ"

â", â""â"€ Certificate: [View] ðŸ"„

â", âœ" Ready for Processing

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â", PROCESSOR ADDS DATA â", Processing

Processing Info

\hat{a}'' , \hat{a}'' , $\hat{a} \in$ Input:

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 \hat{a}'' ,

â€¢ Temperat

\hat{a}'' ,

• Humidity

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â€¢ Duration

[illegible]

â", PROCESSING RECORD CREATED

 \hat{a}'' ,

â", Step ID: PROC-STEP-20251206-4521

â", Batch ID: BATCH-ASHWAGANDHA-20251205-

â", Processor: DryTech Industries

â", Status: Complete âœ"

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â", STORED IN DATABASE â", â€¢ Table:

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Processing Hash

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[TO MANUFACTURER] $\delta\ddot{Y}$ ☐

ðŸ“± STAGE 5: MANUFACTURING

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â", MANUFACTURER â", â€¢ Logs in to Manufact

â", Dashboard â", â€¢ Sees processed batch

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â", MANUFACTURER VIEWS BATCH

â", â€¢ GreenLab Pvt Ltd

â", â€¢ Result: PASS âœ" - Grade A

â", â€¢ Certificate: HT-QC-2025-3847.p

â",

â", âŸ™i, Processing:

â", â€¢ DryTech Industries

â", â€¢ Drying at 45Â°C for 24h

â", â€¢ Output: 140 kg (6.67% loss)

â",

â", â>"i, Blockchain Proof:

â", â€¢ Collection TX: tx-abc123...

â", â€¢ Batch TX: tx-batch-def456...

â", â€¢ QC TX: tx-qc-ghi789...

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Exp Date

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[TO CONSUMER] ðŸ‘€

STAGE 6: CONSUMER VERIFICATION

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â", CONSUMER â", â€¢ Buys product from s

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â", TRACKING PAGE DISPLAYS COMPLETE TRACE

[illegible] \hat{a}''

Product: Ashwagandha Powder 500g

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BATCH-ASHWAGANDHA-20251205-3847

â", â",

â", â"œâ"€ Priya Sharma (Bhopal, MP)

â", â", ðŸ" 23.46Â°N, 77.91Â°E

â", â", ðŸ"| 55 kg Ashwagandha roots

â", â", ðŸ" · [View Photos]

â", â", â>"ï, TX: tx-abc124...

â", â",

â", â""â"€ Suresh Patel (Bhopal, MP)

â", ðŸ" 23.47Â°N, 77.88Â°E

â", ðŸ"| 45 kg Ashwagandha roots

â", ðŸ" · [View Photos]

â", â>"ï, TX: tx-abc125...

â",

â", 2i,âf£ QUALITY TESTED BY LAB

â", Dec 5, 2025

â", ðŸ¥ GreenLab Pvt Ltd (ISO 17025 C

â", âœ" Moisture Content: 10.2% (Safe)

â", âœ" Pesticide Residue: 0.05 ppm (W

â", âœ" Heavy Metals: 5.2 ppm (Safe)

â", âœ" DNA Authentication: 97.8% match

â", âœ" Microbial Load: Low

â", ðŸ", Certificate: [Download PDF]

â", ðŸ† Grade: A (Excellent)

â", â>"i, TX: tx-qc-ghi789...

â",

â", 3i,ââ PROCESSED BY

â", Dec 6, 2025

â", ââi,â DryTech Industries (GMP Ce

â", ââ Process: Traditional Sun Dryin

â", ââ Temperature: 45Â°C

â", ââ Duration: 24 hours

â", ââ Input: 150 kg ââ Output: 140

â", ââ Quality: Premium Grade

â", ââi,â TX: tx-proc-jkl012...

â",

â", 4i,ââ MANUFACTURED BY

â", Dec 7, 2025

â", ðŸ‡Œ HerbalCare Industries (FSSAI I

â", â€¢ Product: Ashwagandha Powder 50

â", â€¢ MFG Date: Dec 7, 2025

â", â€¢ Exp Date: Dec 7, 2027

â", â€¢ Batch: BATCH-ASHWAGANDHA-20251

â", â€¢ TX: tx-mfg-mno345...

â",

â", â€¢ â€¢ â€¢ â€¢ â€¢ â€¢ â€¢ â€¢ â€¢ â€¢ â€¢ â€¢ â€¢

â",

â", â€¢ BLOCKCHAIN VERIFICATION

â", â€¢ All records verified on Hyperledger

â", â€¢ 4 blockchain transactions

â", â€¢ Data tamper-proof and immutable

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â€¢ Batch ID: BATCH-ASHWAGANDHA-20251205-3

- Every stakeholder sees the SAME batch

- No one can alter historical records

• BLOCKCHAIN INTEGRATION:

- Every stage creates a new blockchain t

- Transaction IDs are unique per stage

- Data is cryptographically hashed and s

- Complete audit trail maintained

• TRACEABILITY:

- Batch links to multiple collection eve

- Each stakeholder adds their layer of c

- Consumer sees 100% transparent journey

â€¢ All data verifiable on blockchain

ðŸ‘Œ STAKEHOLDER ACCESS:

â€¢ Farmer: Creates collections, sees own

â€¢ Admin: Creates batches, assigns to lab

â€¢ Lab: Views batch, adds QC results

â€¢ Processor: Views batch + QC results, a

â€¢ Manufacturer: Views complete history,

â€¢ Consumer: Views public traceability in

â€¦ STATUS:

Backend: 100% READY â€œ

Frontend: Lab, Processor, Manufacturer das

Infrastructure: Fully functional

Blockchain: Active and syncing

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YOUR SYSTEM IS WORKING AGAIN

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