RESOURCE ARTICLE · LABELING COMPLIANCE

Understanding Sunrise 2027 & 2D Barcode Labeling

What the 2027 transition actually requires, and what it means for your packaging and printing.

If you've started hearing the term "Sunrise 2027" from your retail partners, you're not alone. It's worth understanding now rather than scrambling later. It's one of the biggest changes to product labeling since the barcode itself was introduced.

What Is Sunrise 2027?

Sunrise 2027 is an industry-wide target. By the end of 2027, retail point-of-sale systems across the country are expected to be able to read 2D barcodes, like GS1 QR Codes and DataMatrix symbols, in addition to the traditional 1D barcodes used today. It's being driven by GS1, the organization that maintains the barcode standards nearly every retailer relies on.

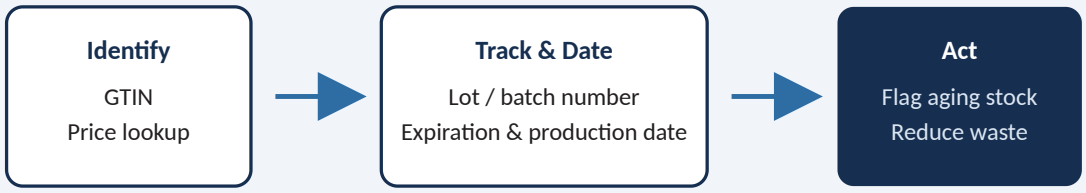
Why a New Barcode Standard?

A traditional UPC barcode does one job: it identifies what a product is, so a register can look up its price. That's it. A 2D barcode can carry far more information in the same amount of label space: the product's GTIN, batch or lot number, production date, expiration date, a serial number, and more, all in a single scan.



The same label space can carry far more data once the barcode becomes two-dimensional.

For perishable products specifically, this is a meaningful shift. Today, an expiration date is usually printed as plain text that a worker has to read and interpret by hand. With a 2D barcode, that same date becomes machine-readable. Retail inventory systems can flag aging stock, trigger markdowns before a product expires, and reduce food waste without anyone checking dates by hand.



Machine-readable dates let inventory systems act on their own, without a person reading a printed date by hand.

How This Connects to Lot Traceability

Sunrise 2027 doesn't exist in isolation. It lines up closely with FSMA 204, the FDA rule requiring faster access to traceability records for many high-risk foods. A 2D barcode gives processors a standardized way to encode that traceability data directly on the package, rather than relying on separate systems for identification and lot tracking.

It also tends to be a stepping stone toward item-level RFID. Once a company is already managing serialized lot and batch data for its 2D barcodes, the jump to item-level RFID tagging is a much smaller leap than starting from a plain UPC barcode.

What This Means for Your Operation

The practical impact varies by retailer and product category. Common themes include:

- Higher-resolution printing to keep a denser barcode scannable and accurate
- Variable-data printing, since each label may now carry unique lot, date, or serial information rather than one static design
- Label verification to confirm barcodes are grading correctly before they ship
- A possible packaging redesign cycle, since barcode placement and sizing requirements may change

2D data also gives end-to-end, item-level visibility across the supply chain. That minimizes waste and enhances freshness, with tighter control of aging perishable stock before it expires.

> **What you can do now:** The timeline is real, but the requirements aren't identical for every supplier. What your specific retail partners expect, and by when, is the part worth figuring out early.

That's exactly the kind of planning conversation we have with packers every day. If you want help sorting out what actually applies to you, our RFID & Label Compliance service is built for it.

Not sure what applies to your packing line?

We'll help you sort out what your retail partners will actually require, and by when.

Contact Us

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