

Calculating the true cost of vitamins to meet target RDA using cost in use analysis.

The pricing paradox: the cheapest isn't always the lowest cost.

Finding the least cost solution for your supplements can be a headache. The obvious solution; comparing price per kg, whilst easy to do, can result in false economies that can end up costing you more.

Cost in use pricing reveals the true cost of inclusion, so you can quickly compare alternatives and select the most economically beneficial option for your formulation.

Here we show how to formulate cost in use, a method that prices in life cycle stability to informed purchasing decisions.

As stability goes down, overage goes up.

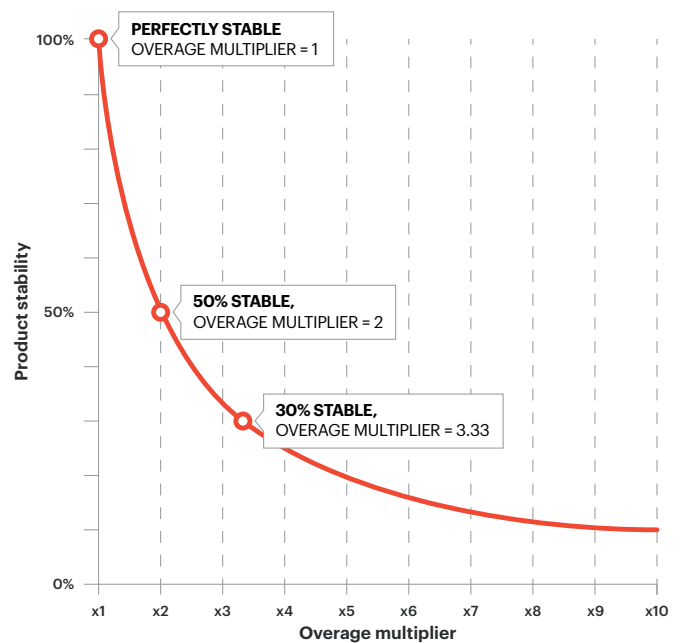
Active stability and overage requirements are directly inversely correlated. The less stable an active is, the more overage is required to compensate for degradation through processing and shelf life.

For example, if an active is perfectly stable, and shows no degradation through processing and a 2 year shelf life - then no overage is required - its overage multiplier is 1.

If however, an active is 50% stable, losing half its inclusion over its lifecycle, then twice the volume of active needs to be included, so it's overage multiplier is 2.

By including the target dosage per unit and factoring in overages required to compensate for stability losses you can more easily compare alternatives.

How to calculate overage based on stability performance



Factoring stability in to a price per dose calculation

$$(x) \text{ mg} \quad \times \quad \frac{\$ / \text{kg}}{1,000,000} \quad \times \quad (y) \quad = \quad (z)$$

Target Dose

The quantity of active ingredient required to meet a target dose, expressed in milligrams.

Price per mg

The purchase cost of the active, expressed in cost per milligram.

Overage Multiplier

The overage required to compensate for degradation over processing and lifecycle.

Cost per dose

The true cost per dose expressed in dollars per milligram.

Case Study

How cost in use pricing saved a gummy manufacturer from an expensive mistake.

The Situation

Lycored had a experience where a competitor approached a customer (gummy manufacturer) with a comparative product (encapsulated Vitamin D2) at a lower price per kg.

- At this time, circa June 2021, there was a \$10.75 (17.3%) differential in price.
- The competitor was cheaper and threatened the use of our ingredient at our customer.

The Response

Both Lycored and the customer carried out accelerated stability tests to evaluate their performance.

- Capsudar D2 100 E showed zero degradation during production process
- It was significantly more stable than the alternative over its shelf life
- The Lycored Capsudar D2 100E outperforms the competitor by almost double throughout the product life cycle

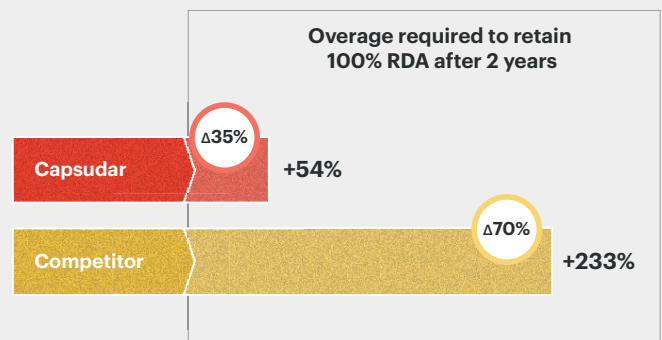
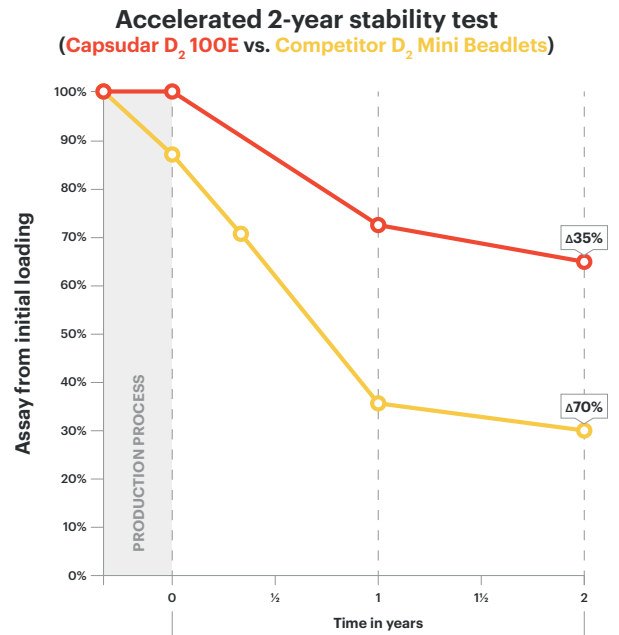
The Outcome

The superior stability performance of Capsudar D2 resulted in an overage multiplier of 1.54 compared to 3.3 for the competitor.

These numbers were then included in a cost of use calculation.

The alternative ingredient was 17.3% cheaper on a cost per kg basis. When Capsudar D2's superior stability performance was included in the calculation it was shown to be 45.7% cheaper than the alternative.

The customer continued to use Capsudar D2 in their formulation.



Less is more

By reducing the volume of ingredient you need to buy to allow for overage, you can reduce cost and unlock more value.



Create space for other actives in formulations



Reduce pack sizes and associated costs and complications



Achieve dosage in smaller or fewer gummies or tablets



Reduce logistics and warehousing costs.



Reduce hours of production cost, less machinery wear and tear

The Capsudar Advantage

Use less, pay less and waste less for a better quality product and enhanced consumer experience.

Capsudar encapsulated products can be applied across many targeted and difficult applications eg gummy, tablet, nutritional bars, pre-mixes, and also fortified food and beverage forms such as bakery, cheese/dairy formats.

For example within the Capsudar collection we offer:

In addition to Vitamin D₂, we have Vitamin D₃ (Cholecalciferol), Vitamin C (Ascorbic Acid), Vitamin B₁₂ (Cobalamin), Vitamin B₉ (Folic Acid), Vitamin B₇ (Biotin), Vitamin B₆ (Pyridoxine), Vitamin B₅ (Calcium Pantothenate – Calpan).

We also have a number of specialties for tablets that are in particular need of high quality encapsulation due to taste and odor including: Caffeine, Methionine and L-Carnitine.