



## G&G Information Sheet

### Botanical Extracts Standardised vs Ratio

Botanical or plant extracts come in two types, a plain ratio usually expressed as 4:1, 10:1 25:1 etc., or as a standardised extract that is standardised to a particular amount of a specific active compound, e.g., 95% curcuminoids, 95% polyphenols, 20% caffeine etc.

#### Ratio extracts

Very simply, 10 kgs of raw material extracted down to 1 kg is a 10:1 extract, 4 kgs to 1 kg is 4:1 and so on.

Benefits: Usually cheaper than standardised, can go to higher concentrations so you can claim “whole herb equivalence” e.g., 100mg of 10:1 = 1000mg of whole herb.

Drawbacks: No active compound claims as they are not usually tested for.

#### Standardised extracts

The raw material is extracted down to a very specific amount of an active compound. For example, in Turmeric, it is extracted until it reaches 95% curcuminoids by laboratory tests. As botanicals are natural products there can be variations in actives from harvest to harvest and from different geographic regions. A standardised extract will always be “standard” at whatever the claimed active percentage is.

Benefits: Tested and proven active compounds that are the same for every batch.

Drawbacks: Often trademarked or branded products (although generics are available) requiring (sometimes restrictive) licence agreements, usually much higher prices.

#### Standardised plus ratio

Sometimes people want to claim both types on their labels. This raises a technical issue. All standardised extracts can be calculated as a ratio extract as well, however it will vary from batch to batch due to the naturally occurring variations in each harvest, as mentioned above. Therefore, manufacturers will often state a *range* for the ratio, e.g., 6 – 9:1. This obviously makes label claims difficult as it will be somewhere between 6 and 9 but can vary batch to batch.

Conversely, some people will want a ratio extract and then ask what % of active is in it. The simple answer is – no idea. Ratio extracts do not go for analysis for active compounds and if they did, they would be different for every batch, for the reasons stated above.

#### Best practice

Decide what you want as a product and what you want to claim, then pick *either* the ratio extract, if you want to claim “whole herb equivalence” e.g., 500mg of 10:1 extract providing 5000mg of whole herb, *or* pick the standardised and claim the active e.g., 300mg of Turmeric extract 95% curcuminoids. It is best not to use both as one figure will usually be incorrect.