

# Lavender Oil Aroma – Quality & Evaluation

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# What is quality?

## The universal definition.

The quality of a product is how well the product satisfies the various requirements of the buyer.

Therefore – the customer determines quality.

BUT – one quality does not suit all buyers.

# The Oil Producer's Job

- ▶ The oil producer must be able to understand each buyer's requirements sufficiently well to be able to define oil quality in terms of those specific oil properties that are required for the customer's process and product.

# Relevant Lavender Properties

- Purity and proper source plant material.
- Organic, sustainability qualifications.
- Relevant physical or chemical properties – numerical data.
- Bioactive/therapeutic functions.
- Aromatic characteristics.

# Determining Aromatic Quality

- ▶ The primary quality parameter is the subjective/personal/non-numerical response of individual noses.
- ▶ Comparison of the oil and the buyer's needs requires experienced olfactory response and informative communication between parties.
- ▶ The linguistic ability to discuss oils effectively requires continuing time and effort in training the nose.

# Gas chromatography

- ▶ Separates the many compounds in an oil.
- ▶ Gives % levels of each individual compound in an oil.
- ▶ Can identify individual and unknown compounds
- ▶ Provides reliable, objective numerical data to describe oils.
- ▶ Look for articles in NZLGA library.

# Why generate GC data?

- ▶ To provide values for the “quality” compounds.
- ▶ For commercial paperwork – PDS, buyer’s listed requirements, formal market specifications.
- ▶ To calibrate your nose for olfactory evaluation.
- ▶ To guide your manipulation of crop, harvest, distillation and storage processes.

# Chemical expectations

- ▶ See “Lavender Oil Composition – 1999–2009 in NZLGA library.
- ▶ Expectations of chemical composition for the major cultivars based on growers’ samples from all round NZ.
- ▶ Aid to identifying problems in production processes – plant material, harvesting, distillation, storage.
- ▶ Validation of product to buyer.



# Olfactory Evaluation.

- ▶ Most common method for oil used as aroma, even if chemical data is available.
- ▶ Sense of smell is commonly neglected but essential for our activities and needs to be maintained by training.
- ▶ NZLGA Oil Competitions.
- ▶ NZLGA workshops for oil producers and competition judges.
- ▶ Michael Leon, RNZ, Sunday Morning, Aug 13

# The Detection of Aromas

- ▶ Binding of individual volatile molecules to receptors in the nose.
- ▶ Generation and transmission of electrical signal to brain.
- ▶ Recognition/interpretation of combined signals.
- ▶ Translation to decision to act.
- ▶ Human need to verbalise and communicate translation.

# Aromatic Notes of Lavandins

- ▶ Grosso – Fresh, vigorous, camphor, eucalypt, warm, floral, rich, green herbaceous, sharp
- ▶ Super – Fresh, vigorous, camphor, eucalypt, warm, floral, ripe fruit esters, spice

# Aromatic Notes of Lavenders

- ▶ Pacific Blue – Light, simple, gentle, floral, sweet, fresh, warm, spice.
- ▶ Avise Hill – Complex, strong, rich, warm, sweet, dry, woody, earthy, old leather.
- ▶ Violet Intrigue – Powerful, heavy floral, rich, warm, oily, fruity, fresh.

# Major Storage Factors

- ▶ Containers
- ▶ Removal of water
- ▶ Temperature
- ▶ Light
- ▶ Oxygen