**Supplementary Tables**

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| --- | --- | --- | --- |
| **Source** | **Physicochemical properties (mean±SE)** | | |
| **Free acidity (FA) meq/kg** | **pH** | **Electrical conductivity (EC) mS/cm** |
| Leaves | 30.0 ± 0.99 | 6.41 ± 0.03 | 0.98 ± 0.06 |
| Flowers | 34.0 ± 0.92 | 6.25 ± 0.03 | 1.15 ± 0.03 |
| Honey bee crops | 43.0 ± 1.80 | 4.82 ± 0.08 | 1.10 ± 0.07 |
| Unripe honey | 72.0 ± 1.56 | 4.97 ± 0.04 | 1.56 ± 0.08 |
| Ripe honey | 77.0 ± 1.28 | 4.91 ± 0.06 | 1.42 ± 0.08 |

**Supplementary Table 1 (S1).** Mean values (mean ± SE of) of free acidity (FA), pH, and electrical conductivity (EC) in the leaves, flowers, honey bee crops, unripe honey and ripe honey originating from *Acacia gerrardii* during the flowering season of *A. gerrardii*.

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| --- | --- | --- | --- | --- | --- | --- |
| **Fortnight** | **Free Acidity (FA) at fortnightly intervals (mean±SE)**  **meq/kg** | | | | | |
| **FA of leaves** | **FA of flowers** | **FA of bee crops** | **FA of unripe honey** | **FA of ripe honey** | **Cumulative seasonal mean from all sources** |
| 1 | 22.0 ± 1.14 | 26.6 ± 0.29 | 34.6 ± 2.60 | 54.0 ±1.22 | 68.6 ± 0.55 | 41.00±3.65 |
| 2 | 25.4 ± 1.54 | 33.2 ± 0.20 | 40.6 ± 2.91 | 70.2 ± 0.49 | 67.4 ± 2.61 | 47.00±3.77 |
| 3 | 35.0 ± 0.63 | 30.6 ± 0.19 | 36.2 ± 1.66 | 75.4 ± 1.75 | 77.2 ± 1.64 | 51.00±4.30 |
| 4 | 30.0 ± 1.54 | 36.4 ± 0.98 | 47.0 ± 5.56 | 77.6 ± 0.24 | 82.4 ± 0.89 | 55.00±4.48 |
| 5 | 31.6 ± 1.50 | 36.9 ± 0.97 | 46.8 ± 4.32 | 76.0 ± 0.10 | 82.6 ± 0.55 | 55.00±4.31 |
| 6 | 34.0 ±1.26 | 38.2 ± 1.32 | 54.6 ± 1.30 | 76.4 ± 0.40 | 84.4 ± 0.55 | 58.00±4.12 |

**Supplementary Table 2 (S2).** Free acidity (mean ± SE) of the leaves, flowers, bee crops, unripe honey, and ripe honey originating from Talh trees (*Acacia gerrardii*) every two weeks during the flowering season of *A. gerrardii*.

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| --- | --- | --- | --- | --- | --- | --- |
| **Fortnight** | **pH at fortnightly intervals(mean±SE)** | | | | | |
| **pH of leaves** | **pH of flowers** | **pH of bee crops** | **pH of unripe honey** | **pH of ripe honey** | **Cumulative seasonal mean from all sources** |
| 1 | 6.7 ± 0.04 | 6.3 ± 0.04 | 4.7 ± 0.13 | 4.9 ± 0.10 | 4.3 ± 0.04 | 5.40±0.19 |
| 2 | 6.5 ± 0.04 | 6.4 ± 0.04 | 4.8 ± 0.18 | 4.9 ± 0.09 | 5.2 ± 0.10 | 5.55±0.15 |
| 3 | 6.3 ± 0.04 | 6.4 ± 0.04 | 5.5 ± 0.09 | 4.8 ± 0.13 | 4.9 ± 0.09 | 5.57±0.13 |
| 4 | 6.4 ± 0.04 | 6.1 ± 0.04 | 4.8 ± 0.09 | 5.0 ± 0.13 | 4.9 ± 0.09 | 5.44±0.14 |
| 5 | 6.3 ± 0.04 | 6.2 ± 0.04 | 4.7 ± 0.09 | 5.2 ± 0.09 | 5.1 ± 0.09 | 5.50±0.13 |
| 6 | 6.3 ± 0.04 | 6.1 ± 0.04 | 4.4 ± 0.13 | 5.0 ± 0.04 | 5.1 ± 0.10 | 5.39±0.15 |

**Supplementary Table 3 (S3).** pH (mean ± SE) of the leaves, flowers, bee crops, unripe honey, and ripe honey from Talh trees (*Acacia gerrardii*) every two weeks during the flowering season of *A. gerrardii.*

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| --- | --- | --- | --- | --- | --- | --- |
| **Fortnight** | **Electrical Conductivity (EC) at fortnightly intervals (mean±SE)**  **mS/cm** | | | | | |
| **EC of leaves** | **EC of flowers** | **EC of bee crops** | **EC of unripe honey** | **EC of ripe honey** | **Cumulative seasonal mean from all sources** |
| 1 | 0.75 ± 0.05 | 1.27 ± 0.02 | 0.75 ± 0.25 | 1.10 ± 0.04 | 0.69 ± 0.03 | 0.91±0.07 |
| 2 | 0.91 ± 0.04 | 1.27 ± 0.06 | 1.30 ± 0.17 | 2.01 ± 0.23 | 1.75 ± 0.03 | 1.45±0.10 |
| 3 | 1.59 ± 0.04 | 1.03 ± 0.04 | 1.23 ± 0.08 | 1.59 ± 0.23 | 1.49 ± 0.50 | 1.39±0.08 |
| 4 | 1.01 ± 0.03 | 1.32 ± 0.03 | 1.27 ± 0.04 | 1.61 ± 0.18 | 1.33 ± 0.41 | 1.31±0.07 |
| 5 | 0.83 ± 0.06 | 0.97 ± 0.08 | 1.28 ± 0.08 | 1.66 ± 0.08 | 1.60 ± 0.13 | 1.27±0.07 |
| 6 | 0.81 ± 0.06 | 1.06 ± 0.04 | 0.76 ± 0.08 | 1.37 ± 0.11 | 1.66 ± 0.09 | 1.13±0.08 |

**Supplementary Table 4 (S4).** Electrical conductivity (mean ± SE) of the leaves, flowers, bee crops, unripe honey, and ripe honey originating from Talh trees (*Acacia gerrardii*) every two weeks during the flowering season of *A. gerrardii*.

|  |  |  |
| --- | --- | --- |
| **Fortnight** | **Temperature (°C)** | **Relative Humidity (%)** |
| 1 | 40 | 10 |
| 2 | 34 | 10 |
| 3 | 38 | 8.8 |
| 4 | 36 | 11.2 |
| 5 | 38 | 12.1 |
| 6 | 36 | 14 |
| **Mean** | **37** | **11** |

**Supplementary Table 5 (S5).** Mean ±SE temperature and relative humidity values measured every two weeks during the flowering season of *A. gerrardii*.