**Table S1.** Moisture content and water activity of apple by-product and biscuits

| Raw material | DM | DT | Moisture content (%) | Water activity |
|---|---|---|---|---|
| Pomace | CABP | - | 65.68±0.55$^{a}$ | 0.987±0.006$^{a}$ |
| | CD | 40 | 9.42±0.06$^{b}$ | 0.549±0.008$^{b}$ |
| | | 60 | 9.07±0.05$^{b}$ | 0.532±0.005$^{c}$ |
| | | 80 | 9.02±0.05$^{b}$ | 0.528±0.005$^{c}$ |
| | FD | 20 | 8.86±0.07$^{c}$ | 0.522±0.004$^{c}$ |
| | | 40 | 8.70±0.14$^{c}$ | 0.516±0.004$^{d}$ |
| | | 60 | 8.80±0.10$^{c}$ | 0.522±0.005$^{c}$ |
| Biscuits | CB | - | 3.51±0.06$^{E}$ | 0.233±0.002$^{G}$ |
| | CD | 40 | 4.19±0.03$^{D}$ | 0.289±0.002$^{E}$ |
| | | 60 | 4.10±0.04$^{D}$ | 0.280±0.004$^{F}$ |
| | | 80 | 4.10±0.07$^{D}$ | 0.281±0.003$^{F}$ |
| | FD | 20 | 4.24±0.03$^{D}$ | 0.287±0.003$^{E}$ |
| | | 40 | 4.19±0.04$^{D}$ | 0.290±0.002 $^{E}$ |
| | | 60 | 4.07±0.04$^{D}$ | 0.294±0.001$^{E}$ |

DM – drying method; DT – drying time; CABP – control apple by-product; CB – control biscuits; CD – contact drying; FD – freeze drying. Data are presented as mean ± SD. Different superscript letters indicate significant differences at $\alpha$ = 0.05: lowercase letters for by-product powders and uppercase letters for biscuits.

**Table S2.** Sensory scores for biscuits enriched with differently dried apple by-product

| Sample | Parameter | Mean | Median | Minimum | Maximum | Lower | Upper | Range | Quartile | Std.Dev. |
|---|---|---|---|---|---|---|---|---|---|---|
| CB | Appearance | 5.91 | 6.00 | 2.00 | 9.00 | 5.00 | 7.00 | 7.00 | 2.00 | 1.52 |
| | Smell | 6.77 | 7.00 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.68 |
| | Taste | 5.93 | 6.00 | 3.00 | 9.00 | 5.00 | 7.00 | 6.00 | 2.00 | 1.52 |
| | Colour | 5.82 | 6.00 | 2.00 | 9.00 | 4.00 | 8.00 | 7.00 | 4.00 | 1.93 |
| | Texture | 5.93 | 6.00 | 3.00 | 9.00 | 4.00 | 7.00 | 6.00 | 3.00 | 1.64 |
| | Overall | 5.77 | 6.00 | 3.00 | 9.00 | 5.00 | 6.50 | 6.00 | 1.50 | 1.68 |
| CD40 | Appearance | 6.55 | 7.00 | 3.00 | 9.00 | 5.50 | 8.00 | 6.00 | 2.50 | 1.68 |
| | Smell | 6.89 | 7.00 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.59 |
| | Taste | 7.23 | 8.00 | 5.00 | 9.00 | 6.00 | 8.00 | 4.00 | 2.00 | 1.18 |
| | Colour | 6.11 | 6.00 | 2.00 | 8.00 | 4.50 | 8.00 | 6.00 | 3.50 | 1.82 |
| | Texture | 6.34 | 7.00 | 4.00 | 9.00 | 5.00 | 7.00 | 5.00 | 2.00 | 1.54 |
| | Overall | 7.18 | 7.00 | 5.00 | 9.00 | 6.00 | 8.00 | 4.00 | 2.00 | 1.19 |
| CD60 | Appearance | 6.86 | 7.00 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.44 |
| | Smell | 6.98 | 7.00 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.59 |
| | Taste | 7.16 | 7.00 | 5.00 | 9.00 | 6.00 | 8.00 | 4.00 | 2.00 | 1.14 |
| | Colour | 6.70 | 7.00 | 4.00 | 8.00 | 6.00 | 8.00 | 4.00 | 2.00 | 1.37 |
| | Texture | 6.93 | 7.00 | 4.00 | 9.00 | 6.00 | 8.00 | 5.00 | 2.00 | 1.32 |
| | Overall | 7.70 | 8.00 | 5.00 | 9.00 | 7.00 | 8.00 | 4.00 | 1.00 | 0.93 |
| CD80 | Appearance | 7.05 | 7.50 | 4.00 | 9.00 | 6.00 | 8.00 | 5.00 | 2.00 | 1.20 |
| | Smell | 7.20 | 8.00 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.49 |
| | Taste | 7.39 | 7.00 | 5.00 | 9.00 | 7.00 | 8.00 | 4.00 | 1.00 | 0.95 |
| | Colour | 6.82 | 7.00 | 4.00 | 9.00 | 5.50 | 8.00 | 5.00 | 2.50 | 1.50 |
| | Texture | 6.73 | 7.00 | 5.00 | 8.00 | 6.00 | 7.00 | 3.00 | 1.00 | 0.92 |
| | Overall | 7.59 | 8.00 | 6.00 | 9.00 | 7.00 | 8.00 | 3.00 | 1.00 | 0.79 |
| FD20 | Appearance | 7.27 | 8.00 | 4.00 | 9.00 | 6.00 | 8.00 | 5.00 | 2.00 | 1.02 |
| | Smell | 7.32 | 8.00 | 3.00 | 9.00 | 6.50 | 8.00 | 6.00 | 1.50 | 1.47 |
| | Taste | 7.02 | 7.50 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.65 |
| | Colour | 7.09 | 8.00 | 4.00 | 9.00 | 6.00 | 8.00 | 5.00 | 2.00 | 1.46 |
| | Texture | 6.73 | 7.00 | 2.00 | 9.00 | 5.50 | 8.00 | 7.00 | 2.50 | 1.62 |
| | Overall | 7.27 | 7.50 | 3.00 | 9.00 | 6.50 | 8.00 | 6.00 | 1.50 | 1.21 |
| FD40 | Appearance | 7.57 | 8.00 | 6.00 | 9.00 | 7.00 | 8.00 | 3.00 | 1.00 | 0.93 |
| | Smell | 7.25 | 8.00 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.51 |
| | Taste | 6.91 | 7.50 | 3.00 | 9.00 | 5.00 | 9.00 | 6.00 | 4.00 | 1.90 |
| | Colour | 7.32 | 8.00 | 4.00 | 9.00 | 7.00 | 8.00 | 5.00 | 1.00 | 1.34 |
| | Texture | 6.80 | 7.00 | 2.00 | 9.00 | 5.00 | 8.00 | 7.00 | 3.00 | 1.85 |
| | Overall | 7.07 | 7.50 | 3.00 | 9.00 | 6.00 | 8.00 | 6.00 | 2.00 | 1.65 |
| FD60 | Appearance | 7.50 | 8.00 | 6.00 | 9.00 | 6.00 | 8.00 | 3.00 | 2.00 | 1.07 |
| | Smell | 7.32 | 8.00 | 3.00 | 9.00 | 6.50 | 8.00 | 6.00 | 1.50 | 1.57 |
| | Taste | 6.86 | 7.00 | 3.00 | 9.00 | 5.00 | 8.50 | 6.00 | 3.50 | 1.79 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Colour | 7.32 | 8.00 | 4.00 | 9.00 | 7.00 | 8.00 | 5.00 | 1.00 | 1.31 |
| Texture | 6.57 | 7.00 | 3.00 | 9.00 | 4.50 | 8.00 | 6.00 | 3.50 | 1.78 |
| Overall | 6.86 | 7.50 | 3.00 | 9.00 | 5.00 | 8.00 | 6.00 | 3.00 | 1.88 |

CB – control biscuits; CD40, CD60, CD80 – biscuits formulated with apple by-product powders obtained by contact-drying at 40, 60, and 80°C, respectively; FD20, FD40, FD60 – biscuits formulated with apple by-product powders obtained by freeze-drying at 20, 40, and 60°C, respectively.