- Dry matter in samples containing sugar;
- Brabender moisture (fast method);
- Water activity (A_W value);
- Moisture according to Karl Fischer analysis.

Subject of analysis: fat phase

- Fat content using the Soxhlet method;
- Iodine number;
- Peroxide number;
- Oxidation stability;
- Composition regarding triglycerides;
- Surface fat in milk powder;
- Degree of acidity of milk powder;
- Fat content using NIR;
- Lipase activity;
- Determination of melting point.

Subject of analysis: emulsions

- Stability by doing centrifuge test without/with optical tracking of phase separation;
- Droplet size/distribution, for example fat droplets, by laser diffraction.

Subject of analysis: sugar

- Sucrose and glucose;
- Sucrose (double polarisation).

Subject of analysis: particle size/shape

- Particle size distribution (laser diffraction), In combination with camera system particle shape distribution;
- Fineness determined with a micrometer screw;
- Fineness determined by wet sieving;
- Fineness determined by dry sieving (particle size distribution plot);
- Size determination with hazelnuts (particle size distribution plot);
- Wet sieving of cocoa liquor with organic solvent (particle distribution plot).

Conclusions

This chapter has described some of many analytical tools that are available to the confectionery manufacture. Every company will have its own procedure and instruments, many developed in-house. There is a clear ongoing trend towards more intensive use of digital data for machine and product quality control and a better understanding of processes has helped the user interpret it. Consequently it is increasingly possible to produce more consistent quality products with fewer out of specification issues and improved environmental friendliness. The most important thing is that technology is used correctly to provide the consumer with high-quality safe products.

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