Protocol 04	
Monitored ingredient	Starch grains
Foodstuff	Starch, pudding
Examination	Histochemistry Unstained sectiones
Short protocol/full version	Short version

1 Detection limit

Not determined.

2 Time Consumption

Sample preparation	Sample treatment
0,5 hour	20 min.

3 Sample Treatment

3.1 Staining

For determining kind of starch is not necessary sectiones in no way modified by using histochemical staining. For determination kind of starch are the most appropriate unstained sections. It is only necessary sectiones get rid of paraffin.

3.2 Microscopic Examination and Evaluation of Results

The stained sections are examined by the light microscope with a lower magnification (e.g. 32x or 40x), for the study of detail is used higher magnification. The identification of starch grains must be based on data from the literature. For comparison use samples prepared in the laboratory and also the schematic pictures and photos from the literature.

3.3 Results

Based on morphological characteristic, you can determine the type of starch.

Potato starch
Potato starch has the largest grain of all domestic starches (70 - 100 μm). They are either oval or elliptical, core is eccentrically stored in the narrow end and with an obvious eccentric layering. Sometimes there are grains of double and triple.
Wheat starch
Grains are twofold - large and small, both are lenticular shape. Large grains have a size of 12 - 41 μm. In the centre is slightly obvious nucleus and almost infinitesimal concentric layering. Small grains are large 2 - 8 μm.
Corn starch
Corn starch has a multilateral grains with star-shaped forked cavity. Layering is usually not apparent, grain size is 8 - 20 μm.

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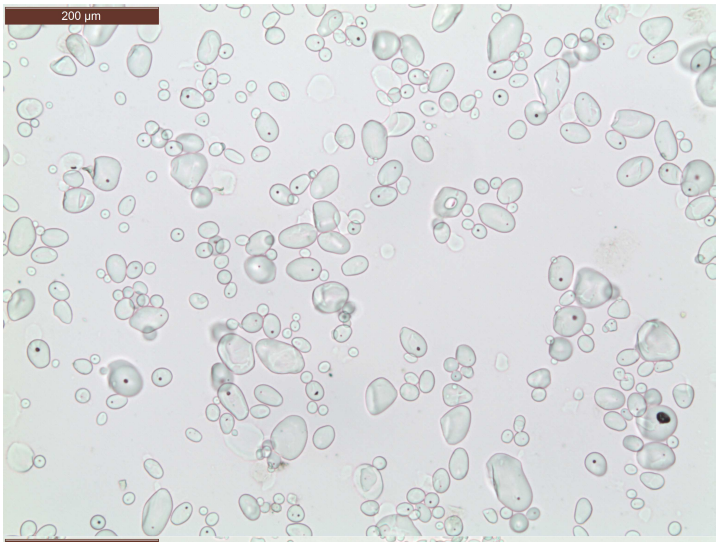
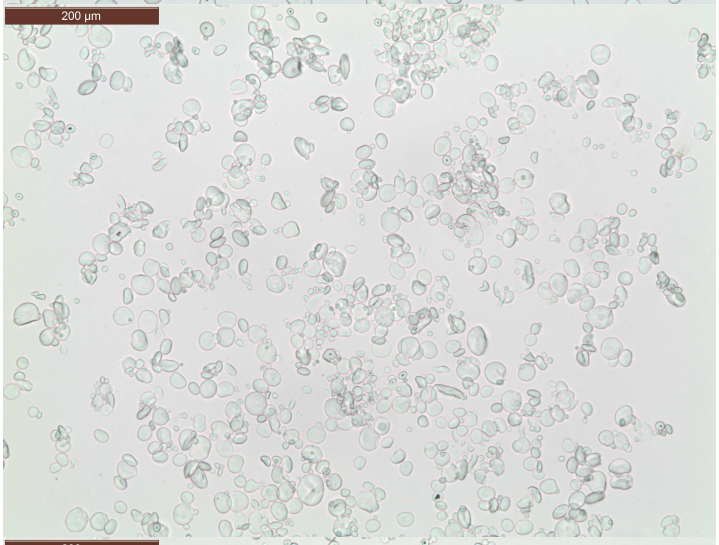
4 Photo Documentation

Potato starch unstained
(magnification 100x)



Wheat starch unstained
(magnification 100x)



Corn starch unstained
(magnification 100x)