

Dear customers

The importance of honey quality gained more significance recently.

Especially in the international honey trade, residues of pesticides, antibiotics, and veterinary drugs are often found in honey and beeswax. Furthermore, the amount of falsified products increases.

Therefore, we developed in cooperation with the honey industry a comprehensive proficiency testing program of **honey and beeswax** in the field of **chemical-physical** analytics and we are happy to strengthen the quality of honey with you.

## Product catalogue food and feed

### ***chemical-physical proficiency testing schemes honey and beeswax:***

- **Honey 1 (October 2018)**

Article No. 2010455 more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)

Parameter: diastase activity, proline, HMF, conductivity, pH-value, water, glycerin, ethanol

Description: With this proficiency testing the comparability of the chemical-physical testing of different attributes in honey can be assessed. The diastase activity serves to evaluate the grade of heating treatment. The amount of proline provides information about the ripeness and the natural purity. Hydroxymethylfurfural (HMF) develops during sugar degradation during prolonged storage and through high storage temperatures. The conductivity helps to evaluate the purity of sort honey, the pH-value and the water content are general quality markers, while increased glycerin and ethanol amounts indicate alcoholic fermentation.

- **Honey 2 (October 2018)**

Article No. 2010708 more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)

Parameter: glucose, fructose, maltose, saccharose, turanose, saccharase number, free acids, ash

Description: With this proficiency testing the comparability of the chemical-physical testing of different attributes in honey can be assessed. The composition and the amount of sugars helps to evaluate the honey quality and the source of honey yield. The saccharase number is a measure for the saccharase activity and serves to evaluate the grade of heating treatment.

- **Relative frequency of pollen in honey (November 2018)**

Article No. 2011012 more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)

Parameter: relative frequency of pollen

Description: The accuracy of the declaration of the regional and botanical honey origin can be determined microscopically by checking the relative frequency of pollen. With this proficiency testing the comparability of this method can be tested.

## **chemical-physical proficiency testing schemes honey and beeswax:**

### **- Antibiotics in honey (November 2018)**

Article No. 2011002 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: quan. determination of one antibiotic of each of the substance groups sulfonamides and tetracyclines as well as of chloramphenicol and streptomycin.

Description: Antibiotics are used outside of Europe for treating the American foulbrood. This can lead to antibiotic residues in honey. In Europe and Switzerland the use of antibiotics is forbidden and only honey free of antibiotics may be sold.

### **- Pesticide residues in honey (December 2018)**

Article No. 2011004 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: quan. determination of several plant protection agents out of the fields herbicides, insecticides and fungicides

Description: Bees pollinize about 80% of agricultural crops, which are treated with different pesticides. Consistently, pesticide residues are found in honey. The honey however may only be sold if certain prescriptive limits are not exceeded.

### **- Pyrrolizidine alkaloids in honey (November 2018)**

Article No. 2011006 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: quan. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciphylline, senkirkine, heliotrine, monocrotaline or lasiocarpine

Description: Honey is one of the major sources for consuming toxic pyrrolizidine alkaloids (PA). PA are present in over 6000 plant species and function as protecting agents against predators. PA are liver-damaging and most likely carcinogen. Therefore, honey with high PA levels should not be sold.

### **- Veterinary drug residues in honey (December 2018)**

Article No. 2011008 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: quan. determination of three distinct veterinary drugs or their components, e.g. thymol, phenol, naphthalene, cymiazol, coumaphos or amitraz

Description: Bees are treated with several veterinary drugs e.g. against the varroa mite. If used inappropriate veterinary drug residues can be found in honey, which makes the sale of this honey impossible.

### **- GMOs in honey (December 2018)**

Article No. 2011010 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: identification of GMO pollen and GMO soy

Description: In different countries GMOs are used more and more in agriculture. This leads to GMO pollen in honey. With this proficiency testing the comparability of the determination of GMO pollen in honey can be tested.

# HONEY and BEESWAX

## **chemical-physical proficiency testing schemes honey and beeswax:**

### **- Falsification honey (December 2018)**

Article No. 2011014 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: rice syrup and sugar beet syrup in honey

Description: Recently, there was a dramatic increase of falsification in the international honey trade, i.a. the honey is often mixed with industrial sugar syrup. With this proficiency testing the comparability of detecting sugar syrup in honey can be determined.

### **- Residues in beeswax (February 2019)**

Article No. 2011016 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: quan. determination of three distinct substances out of the fields varroa veterinary drugs and plant protection agents

Description: In beeswax different residues can be enriched. These residues can migrate into honey, therefore it is important to determine the quality of beeswax.

### **- Falsification beeswax (February 2019)**

Article No. 2011018 *more information you can find at [www.odin.drrr.de](http://www.odin.drrr.de)*

Parameter: paraffin wax content, stearin content

Description: Recently, there was an enhanced level of falsification of beeswax with paraffin wax and stearin in the international trade. This can influence the development of bees negatively and embedded honey can be contaminated. Therefore, it is important to be able to determine the quality of beeswax.

## **Have we sparked your interests?**

More information concerning the proficiency testing schemes as well as the prices and the order form you can find in the attached special supplement, in our product catalogue, on our website <http://www.DRRR.de/en/catalogue/> and in our Online Data Information Network ([ODIN](#)).

## **Do you have suggestions for other parameters or matrices and their implementation?**

**Then do not hesitate to contact us!**

## **Yours DRRR-Team**

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# chemical-physical proficiency testing

For your registration we recommend to use our online catalogue (ODIN) or the registration forms on our homepage ([www.DRRR.de](http://www.DRRR.de)). You can also use the registration forms of this special supplement.

## honey and beeswax

Art. No.	proficiency testing type	requested parameters	period	price *	additional samples **
2010455	honey 1	diastase activity, proline, HMF, conductivity, pH-value, water, glycerin, ethanol	Oct-18	252,00 €	84,00 €
2010708	honey 2	glucose, fructose, maltose, saccharose, turanose, saccharase number, free acids, ash	Oct-18	252,00 €	84,00 €
2011002	antibiotics in honey	quan. determination of one antibiotic of each of the substance groups sulfonamides and tetracyclines as well as of chloramphenicol and streptomycin.	Nov. 18	380,00 €	127,00 €
2011004	pesticide residues in honey	quan. determination of several plant protection agents out of the fields herbicides, insecticides and fungicides	Dez. 18	380,00 €	127,00 €
2011006	pyrrolizidine alkaloids in honey	quan. determination of three distinct pyrrolizidine alkaloids, e.g. lycopsamine, echimidine, retrorsine, senecionine, seneciphylline, senkirkine, heliotrine, monocrotaline or lasiocarpine	Nov. 18	380,00 €	127,00 €
2011008	veterinary drug residues in honey	quan. determination of three distinct veterinary drugs or their components, e.g. thymol, phenol, naphthalene, cymiazol, coumaphos or amitraz	Dez. 18	380,00 €	127,00 €
2011010	GMOs in honey	identification of GMOs in honey, e.g. GMO pollen and GMO soy	Dez. 18	380,00 €	127,00 €
2011012	relative frequency of pollen in honey	relative frequency of pollen	Nov. 18	300,00 €	100,00 €
2011014	falsification honey	rice syrup and sugar beet syrup in honey	Dez. 18	300,00 €	100,00 €
2011016	residues in beeswax	quan. determination of three distinct substances out of the fields varroa veterinary drugs and plant protection agents	Feb. 19	380,00 €	127,00 €
2011018	falsification beeswax	paraffin wax content, stearin content	Feb. 19	380,00 €	127,00 €

\* price only valid by online result release and report in ODIN / price for result release by mail/fax plus 30,00 € / price for report by post plus 40,00 €

\*\* additional submitted result sheets by e-mail, post or fax will be charged as additional sample sets

