

**Report Ref: IRMS/DABUR/2016**

**Objective:** Authentication analysis of Honey for d13C sugar analysis by LC-IRMS.

**Samples:** - Dabur Finished Samples identified as:

- 1) Sample-A
- 2) Sample-B

**Results and Discussions:****1. Sample-A (BD0871 Dabur Honey)**

Parameters	$\delta^{13}\text{C}$ (per mil)
Vendor Name	Dabur
PKD on	NA
Net weight	NA
M.R.P.(Rs.)	NA (Dubai Export)
Batch No.	<b>BD0871</b>
Calculated Bulk Honey	-24.93‰
Calculated Default Honey Protein	-25.90‰
Fructose (F)	-25.32‰
Glucose (G)	-24.23‰
Disaccharides	-25.23‰
Delta d13C (F-G)	<b>-1.08‰</b>
Delta d13C (max.)	<b>-1.08‰</b>
(Protein-Honey)	-0.97‰
Calculated C4 Sugar%	<b>5.99</b>

**Conclusion:** The Sample meets the specifications of pure honey. Foreign sugars were not detected.

**Note:-****(A) Accredited method (AOAC 998.12)**

**C4 Sugar content : <7%**

(B) Pure Honey Value should be -25.9‰, and protein value is -25.7‰.

(C) d13C value in permil. Vs. V-PDB standard.

(D) \*\*not considered for Delta d13C (max.) calculations if affected by high yeast content

(Yeast determination from Delta d13C (max.)  $\geq 2.1$  ‰ on)

(C) Standard on off standard deviation should be in range (-0.03%)

**\*\*\*SPECIFICATIONS OF PURE HONEY:**

**Delta d13C (F - G): not more than +/- 1.0 ‰**

**Delta d13C (max.) of individual d13C values: not more than +/- 2.1 ‰**

## 2. Sample-B (BD0872 Dabur Honey)

Parameters	$\delta$ C13 (per mil)
Vendor Name	Dabur
PKD on	NA
Net weight	NA
M.R.P.(Rs.)	NA (Dubai Export)
Batch No.	<b>BD0872</b>
Calculated Bulk Honey	-25.11‰
Calculated Default Honey Protein	-25.90‰
Fructose (F)	-25.36‰
Glucose (G)	-24.33‰
Disaccharides	-25.64‰
Delta d13C (F-G)	<b>-1.04‰</b>
Delta d13C (max.)	<b>-1.31‰</b>
(Protein-Honey)	-0.79‰
Calculated C4 Sugar%	<b>4.88</b>

**Conclusion:** The Sample meets the specifications of pure honey. Foreign sugars were not detected.

**Note:-**(A) **Accredited method (AOAC 998.12)**

**C4 Sugar content : <7%**

(B) Pure Honey Value should be -25.9‰, and protein value is -25.7‰.

(C) d13C value in permil. Vs. V-PDB standard.

(D) \*\*not considered for Delta d13C (max.) calculations if affected by high yeast content  
(Yeast determination from Delta d13C (max.)  $\geq$  2.1 ‰ on)

(C) Standard on off standard deviation should be in range (-0.03%)

**\*\*\*SPECIFICATIONS OF PURE HONEY:**

**Delta d13C (F - G): not more than +/- 1.0 ‰**

**Delta d13C (max.) of individual d13C values: not more than +/- 2.1 ‰**