

Diastase in New Zealand Honey

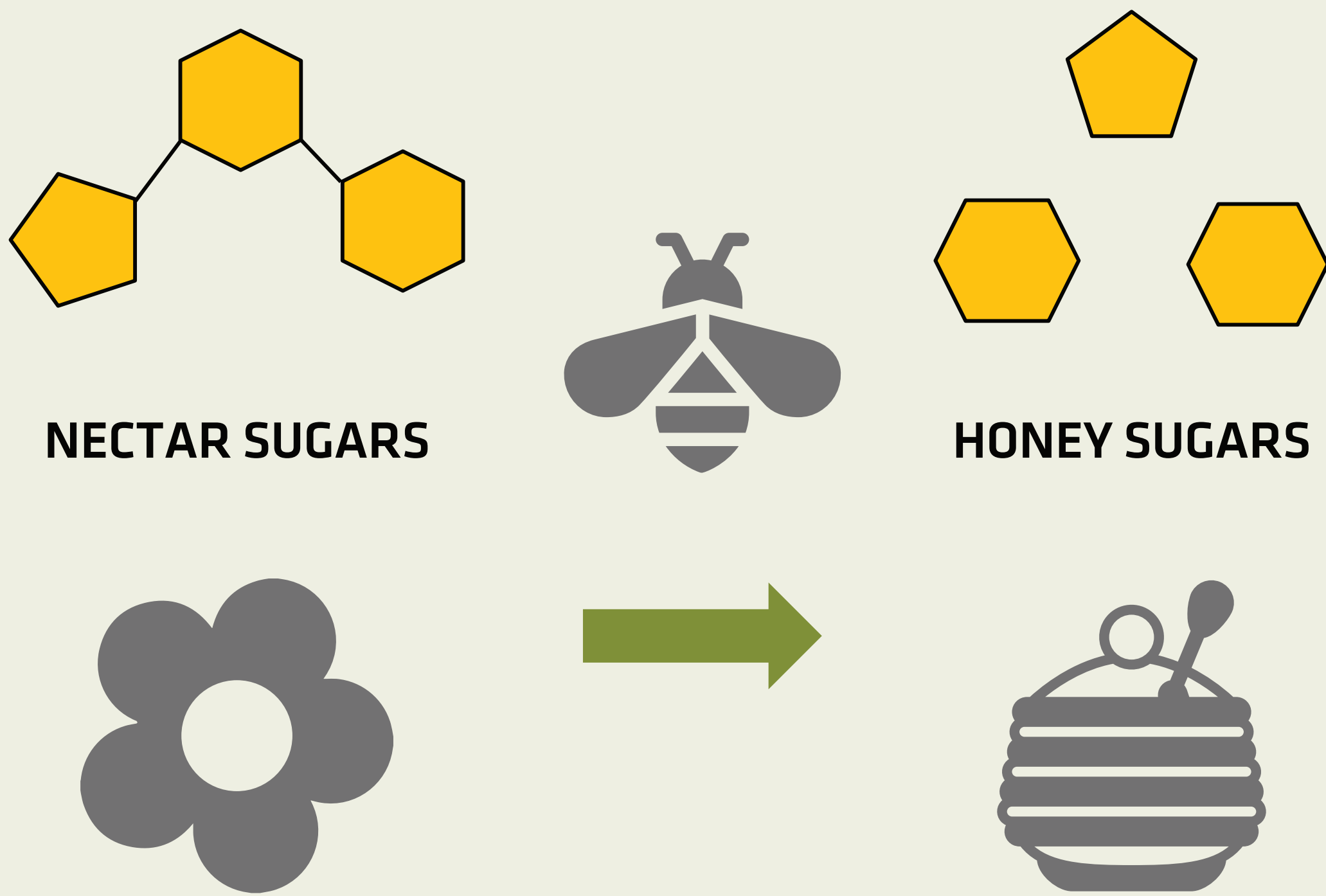
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BACKGROUND

Diastase is an enzyme which bees use to partially digest the sugars found in nectar. It converts complex sugars into simple ones, which are more appropriate for storage as honey. There is no way for bees to remove diastase from nectar once this process is complete, so some of it ends up in the resulting honey.

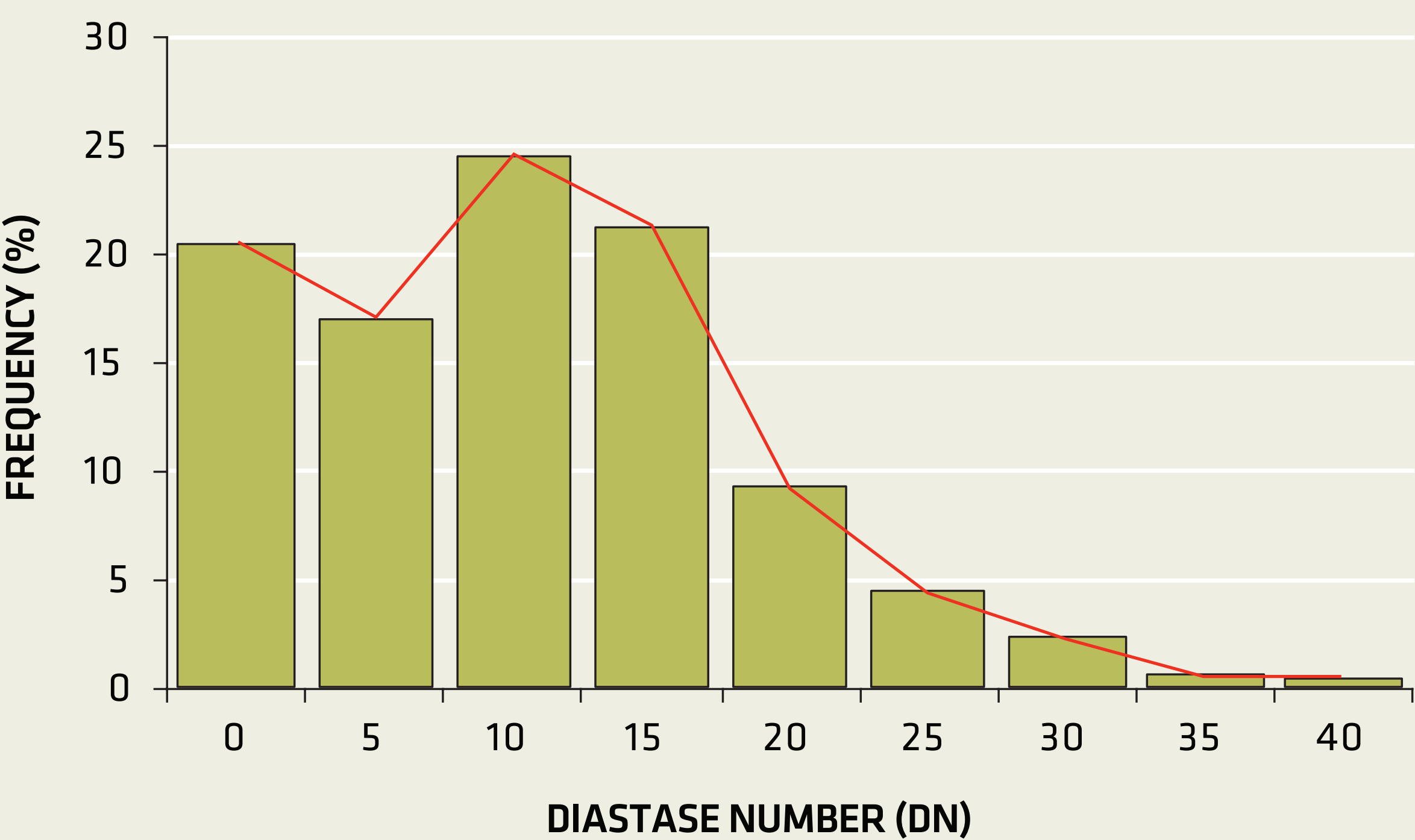
The residual diastase retains some of its activity throughout the life of the honey. This can be measured in the laboratory, and is referred to as the *diastatic activity*. It is reported as the *diastase number*, or DN. Fresh honey has a high diastase number, but this reduces with time and heat.

For these reasons diastase is used a quality indicator, just like HMF. The Codex Honey Standard specifies a minimum activity of 8.0 DN for most honey types, including mānuka. This poster explores the relationship between diastatic activity and other chemical parameters for New Zealand honey tested at Analytica during 2018-19.



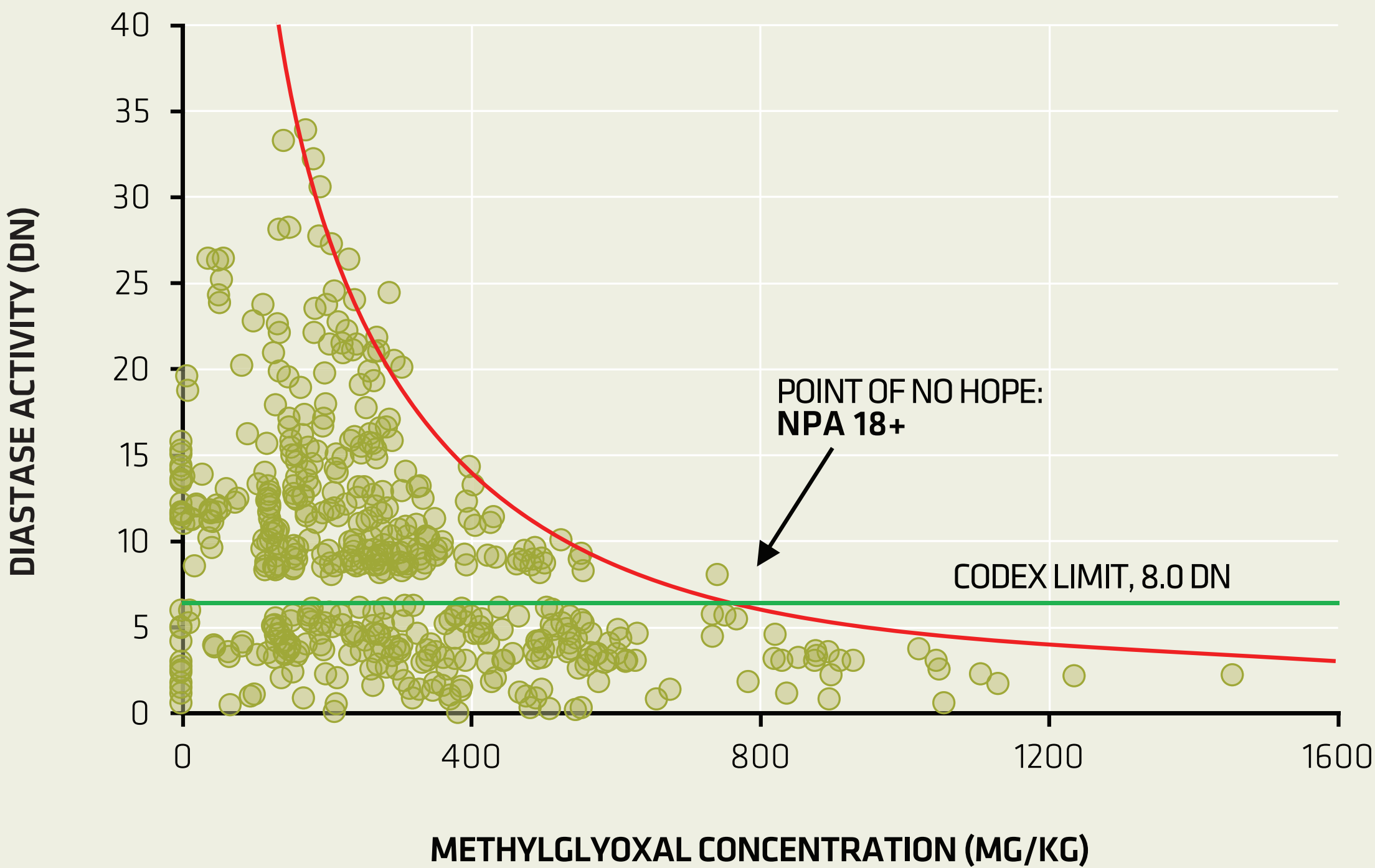
MANY HONEYS HAVE LOW DIASTASE

- Most of the samples tested had lower diastatic activity than expected for fresh honey, probably because mānuka honey is uniquely aged.
- The average diastatic activity was only 8.7 DN.



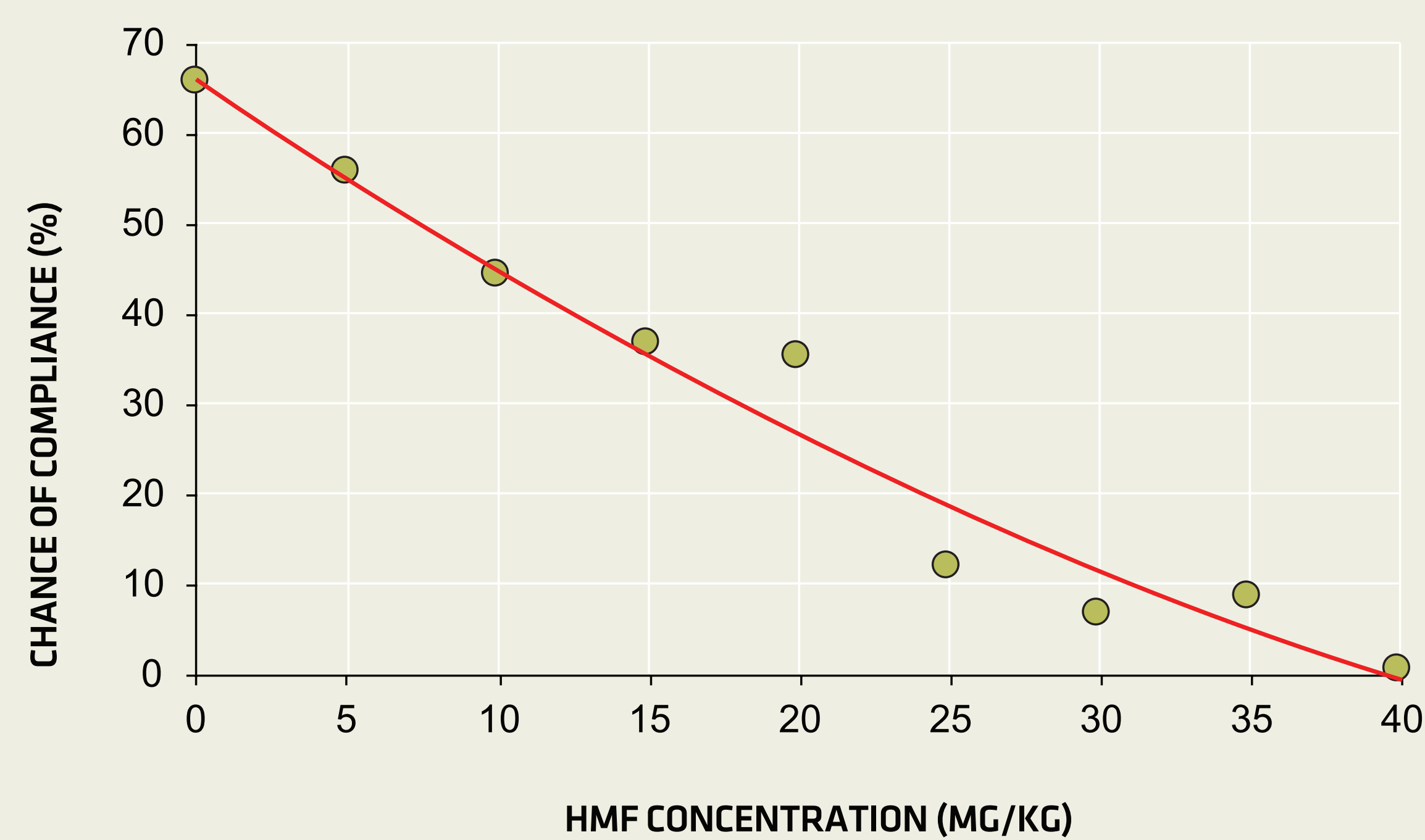
DIASTASE IS CORRELATED WITH MG

- Diastatic activity was inversely correlated with MGO content, so it is more difficult to find high-grade honeys with the necessary diastase.
- Only 30% of honey with NPA>15 had sufficient diastase (≥ 8.0 DN).



DIASTASE IS CORRELATED WITH HMF

- The more HMF is present in a honey, the lower the diastatic activity was likely to be, and the lower the chance of compliance with the Codex limit.
- At 40 mg/kg of HMF there was a 0% chance of having ≥ 8.0 DN.



DIASTASE IS NOT CORRELATED WITH MPI5

- There was no significant difference in the diastatic activity of honeys in the different classification grades.
- 57% of monofloral mānuka had insufficient diastase (≤ 8.0 DN).

