



The Celtic Secret of the Healing Honey

A Gift from the Bees of Zambia

Welcome, young Celt!

You received something very special today — a tiny treasure jar holding **one teaspoonful of Zambian Forest Honey**.



It may not look like much, but inside this golden measure lies **science, history, and healing power!**

This honey comes from wild bees that live high in the trees of the Zambian forests. Local beekeepers carefully collect it using traditional methods, leaving the bees safe and the forest protected. Every spoonful helps village communities *and* saves forests.



Beekeeping: Then and Now

The **village beekeepers in Zambia** use traditional, sustainable methods that have changed very little over thousands of years — methods that would have been familiar to the **Celts** too!

Zambian forest beekeepers:

- Craft **cylindrical hives** from bark or hollow logs.
- Hang them high in trees, far from predators.
- Collect honey only once or twice a year, leaving plenty for the bees.
- Use **smoke** to calm the bees — just as ancient beekeepers did.

Celtic and early European beekeepers:

- Used “**skep**” **hives** made of twisted straw or wicker, shaped like domes.
- Also used **smoke** to pacify bees.
- Took honey at harvest time, often leaving comb for the bees to rebuild.
- Cherished bees as sacred and believed their honey had **magical and healing powers**.

So, while the **materials differ** — bark in Zambia, straw in Celtic lands — the **principles are the same**:



Respect the bees.



Work with nature, not against it.



Take only what you need.



Created by Scientific Sue — Bringing Science2Life

Inspiring curiosity through storytelling, sustainability, and science.



www.science2life.com



@scientificsue

In *The Chemistry of the Celts* show, you helped me mix honey with **yarrow** to stop bleeding, stirred it into **willow bark brew** to sweeten its bitter taste, and later on another brave volunteer helped me add it to our **Celtic soap** to help heal our brave warrior after battle. The Celts believed honey was a **gift from the gods** — and now you know why!

The Science of Honey's Healing Powers

Honey is more than just a sweet treat. It's a **natural medicine** and a **tiny chemical factory** made by bees!

Here's how it works:

-  **Low water content:** Stops bacteria from growing.
-  **Hydrogen peroxide:** Formed by enzymes in honey, acts as a gentle antiseptic.
-  **Acids and plant compounds:** Help wounds heal and keep the skin healthy.
-  **Antioxidants:** Fight the “rusting” inside our bodies, helping us repair and regenerate.

That's why the Celts — and even modern doctors — still use honey for healing.



Why Honeys Taste (and Heal) Differently

Not all honeys are the same! The taste, colour, and even the healing strength depend on:

- The **flowers** the bees visit
- The **soil and weather** where the plants grow
- How the honey is **harvested and processed**

When bees visit different flowers, they collect nectar and pollen filled with **flavonoids** and **phenolic acids** — natural plant chemicals that give honey its colour, scent, and special powers.



Three Magical honeys Compared

Feature	Zambian Forest Honey	Manuka Honey (New Zealand)	Irish Heather Honey
Bees' Forage	Wild forest flowers and trees in untouched woodland	Nectar from the Manuka bush (<i>Leptospermum scoparium</i>)	Heather, clover, and wildflowers across Ireland
Colour & Flavour	Dark, smoky, rich like caramel	Deep amber, earthy, slightly medicinal	Golden to dark purple-brown, floral and strong
Special Chemistry	Full of pollen, enzymes, and antioxidants	High in MGO (methylglyoxal) , a powerful antibacterial compound	Packed with phenolic antioxidants that protect cells
Why It's Different	Many flower types = lots of chemical variety	Manuka nectar contains DHA , which turns into MGO in the hive	Heather nectar gives honey a jelly-like texture and powerful antioxidant punch
Healing Strength	Strong antibacterial and soothing	Famous for fighting infection and healing wounds	Great for sore throats, coughs, and immune support
Story Connection	Used in our Celtic Healing Sketch, Soap, and Brew	"Super honey" from across the sea	Our own "Irish Super Honey" — heather honey rivals Manuka!

What Are Pollen and MGO?

Pollen Power

Pollen is the powdery dust from flowers that bees collect on their legs. It's filled with **proteins, vitamins, and plant chemicals** that make each honey unique. The more pollen left in a honey, the more flavour and nutrients it has — that's why **unfiltered raw honey** (like your Zambian Forest Honey) looks cloudy and tastes so rich!

MGO Magic

Manuka honey contains a special chemical called **MGO — methylglyoxal**. It comes from a compound in Manuka nectar called **DHA (dihydroxyacetone)**. Inside the hive, DHA slowly turns into MGO — and MGO kills harmful bacteria! The higher the MGO number on the jar (e.g., MGO 250+, MGO 500+), the stronger its antibacterial powers.



Honey and Healing in Celtic Times

The Celts didn't have antibiotics, but they had **wisdom**.

They used **yarrow and honey** to heal wounds, **willow bark** for pain relief (the natural source of aspirin), and **soap made with honey and herbs** to clean and soothe the skin.

When they weren't healing or fighting... they were **feasting**!

The Celts' Party Drink: Mead

Mead is the world's oldest alcoholic drink — made by fermenting honey, water, and sometimes herbs or fruit.

Mead is chemistry and celebration in one bottle!

When honey ferments, yeast turns the sugars into alcohol — a bubbly chemical reaction the Celts loved to toast with.

Taste Science: Your Tongue, the Chemist!

Your tongue is covered in tiny bumps called **papillae**, each containing **taste buds** — about 10,000 of them! Taste buds have receptor cells that detect chemicals in food and send messages to your brain.

You can taste **five main flavours**:

-  **Sweet** (sugars like in honey)
-  **Sour** (acids like lemon)
-  **Salty** (minerals like salt)
-  **Bitter** (plant alkaloids — like willow bark!)
-  **Umami** (savoury, found in cheese and mushrooms)

But here's the secret:

Your **nose** helps you taste too! Try pinching your nose and tasting honey — it won't taste as strong.

Try This: The Great Honey Taste Test!

Be a Celtic Scientist and explore the *Science of Sweetness*.

You'll need:

- A spoonful of **Zambian Forest Honey** (shared by everyone)
- A small spoon of **runny supermarket honey**
- **Toothpicks or cotton buds** for tasting



Science2Life: Inspiring STEM learning through stories that matter.

Empowering children, supporting fair trade, and promoting sustainability — one experiment at a time.

 Live and Virtual STEM Experiences for Schools, Festivals & Corporate Outreach

- A **glass of water** to rinse between tastings
- Optional: A blindfold for a mystery challenge!

Instructions:

1. Dip a clean toothpick or cotton bud into the **Zambian honey** — taste a tiny amount.
2. Rinse your mouth and use a new stick for the **supermarket honey**.
3. Notice the texture, scent, and sweetness.
4. Record your results below — which honey tastes richer, thicker, or more floral?

Honey Type	Colour	Texture	Smell	Taste words	Favourite?
Zambian Forest					
Supermarket Runny Honey					

Ask:

Which honey do you think has more pollen and plant power?
(Hint: The thicker, darker one!)



Amazing Honey Facts

- Honey never goes off — archaeologists have found pots of honey in Egyptian tombs still edible after 3,000 years!
- A bee makes only 1/12th of a teaspoon of honey in its whole life.
- Irish heather honey has one of the **highest antioxidant levels** of all European honeys — a true Celtic superfood.
- Bees are pollinators — without them, we'd lose most of our fruit, nuts, and flowers.



A Message from Scientific Sue

Honey connects us — across time, continents, and science.
From the Celtic forests to the **Zambian trees**, from healing to celebration — honey is nature's sweetest chemistry lesson.

Share what you've learned, taste the difference, and remember:
Every spoonful of honey is a story of science, nature, and kindness.



Created by Scientific Sue — Bringing Science2Life
Inspiring curiosity through storytelling, sustainability, and science.
www.science2life.com • @scientificsue