

OTS Queen Rearing in the UK (Yorkshire Conditions)

A Practical Guide for Self-Sufficient, Sustainable Beekeeping

1. Introduction

The *On-The-Spot* (OTS) system, devised by Mel Disselkoen, is a non-grafting method of queen rearing that harnesses a colony's natural impulse to produce queens - without specialist equipment or tiny grafting tools. It's based on one simple action:

Notching the cell wall beneath 36-hour-or-younger larvae on vertical comb to stimulate emergency queen cell production.

This technique:

- Avoids grafting or artificial cell cups.
- Produces locally adapted, naturally fed queens.
- Allows rapid increase or requeening without buying in stock.
- Interrupts the Varroa breeding cycle and strengthens colony genetics.

The system relies on timing, strong colonies, and understanding the bees' natural cycles - which in the **UK (especially Yorkshire)** differ from those in Michigan.

2. Understanding the UK Beekeeping Calendar

OTS depends on manipulating colonies around their **natural swarming period**.

In Yorkshire, this typically means:

Season	Typical Conditions	Bee Management Focus
March–April	Brood expansion begins; forage from willow, dandelion, fruit blossom	Build colony strength
Late April–June	Peak swarm impulse; drones mature	OTS queen rearing & artificial swarming
July–August	Main nectar flows (lime, clover, bramble, balsam); post-solstice queens	Honey harvest & post-swarm increase
September–October	Colony contraction	Feeding & winter preparation
November–February	Clustered bees	Monitor stores; plan next season

The **Yorkshire swarming season** usually runs **mid-May to mid-June**, later in upland areas.

This is when OTS should begin - when colonies are strong, drones are flying, and weather allows mating.

3. Preparing for OTS

Essential Equipment

- Standard brood boxes and supers
- A sharp **hive tool** for notching

- Queen excluders
- Spare brood boxes or nucleus boxes
- Feeders and syrup
- Marking pens and record cards

Colony Requirements

- Strong overwintered colonies with **6+ frames of brood** and plenty of bees.
- Drones visibly flying.
- Good weather forecast (daytime temperatures consistently **above 15°C**).

Pre-Requisites

- Identify and mark your best overwintered queens: calm, productive, low Varroa load. These will be your **breeder queens**.
- Ensure colonies have **ample food** (honey or light syrup) before manipulation.

4. The Core Principle: Notching

Step-by-Step Notching Method

1. **Find a brood frame** with 36-hour-or-younger larvae (tiny white crescents in a pool of royal jelly).
2. Using your hive tool, **cut the cell wall away** just below the larvae, all the way down to the foundation.
 - This creates a “hanging edge” and exposes the base of the cell.
 - The bees interpret this as an emergency and raise a queen from that larva.
3. Return the notched frame to a **queenless, full-strength colony** (your “cell builder”).
4. Within 7 days, sealed queen cells will appear along the notched strip.

Note: Only **full-strength colonies** (minimum 4 frames of brood) will raise quality cells. Weak colonies produce inferior queens.

5. The UK OTS Queen Rearing Calendar

Below is an adapted schedule for the 53°N latitude (Yorkshire) - roughly **two to three weeks later** than Disselkoen’s Michigan calendar.

Date (Approx.)	Procedure	Objective
Early May	Identify your strongest overwintered colonies. If they show pre-swarm signs (queen cups, congestion), create an artificial swarm .	Prevent natural swarming; prepare for OTS.
Mid-May	In the queenless parent hive, notch all brood frames containing young larvae.	Stimulate emergency queen cell production.
Late May (7–9 days later)	Inspect notched frames; remove excess queen cells, leaving 1–2 per frame.	Prepare for making nucs or new starts.

Date (Approx.)	Procedure	Objective
Early June	Assemble nucs (starts) : 2 frames of brood, 1–2 queen cells, 2 shakes of bees, and honey/pollen stores.	Create increase colonies.
Late June–July	Queens from these starts will begin laying. Dispatch old queens and requeen with post-solstice OTS queens for overwintering.	Young queens maintain laying into autumn.
August–September	Feed nucs with syrup, ensure good ventilation, and monitor stores.	Strengthen colonies for winter survival.

6. Practical OTS Scenarios for UK Beekeepers

A. OTS for Swarm Control

- Before the swarming period (May), split your strong colony:
 - Move the queen and 2 brood frames to a new box (“artificial swarm”).
 - Leave the parent hive queenless and **notch** several brood frames.
- In a week, the parent colony will have sealed queen cells and reduced swarming impulse.
- You can use those cells to requeen or make increase.

B. OTS for Making Increase

- In late May or early June, choose your best colonies.
- Remove the queen (to a nuc).
- Notch** several brood frames.
- Seven days later, select the best queen cells and distribute them to 2-frame nucs.
- Feed lightly until the queens are laying.

C. OTS for Requeening

- In July (after the summer solstice), dispatch aging queens.
- Notch** a single brood frame with young larvae.
- The colony rears a new queen, mated late in the season, who continues laying steadily into autumn.
 - This breaks the Varroa cycle naturally.
 - Produces a vigorous, overwintering queen ready for spring build-up.

7. Feeding and Care

- Always feed **newly created nucs or queenless hives** with **1:1 syrup** until they have drawn comb and foraged.
- Reduce entrances to deter robbing.
- Avoid disturbing colonies during mating flights (approx. 10–14 days after emergence).
- After requeening, give **30 days** before inspecting for brood pattern.

8. Varroa and Brood Break Benefits

Each OTS cycle creates a **natural brood break** of ~30 days:

- Interrupts Varroa reproduction.
- Reduces virus transmission.
- Produces healthier winter bees.

This method aligns perfectly with integrated pest management (IPM) - reducing reliance on miticides.

9. Common Pitfalls in UK Conditions

Problem	Likely Cause	Prevention
Poor queen mating	Cool, wet weather; lack of drones	Delay OTS until consistent warm spells; use sheltered mating sites.
No queen cells formed	Colony not truly queenless or not strong enough	Ensure queen removal and adequate brood/bees.
Small/weak nucs	Too few bees or brood	Minimum 2 frames of sealed brood + 2 shakes of bees.
Chalkbrood or slow build-up	Damp sites, poor ventilation	Use open mesh floors and tilted hives; avoid waterlogging.

10. Seasonal Summary for Yorkshire

Month	OTS Focus	Key Tasks
April	Preparation	Build colony strength, inspect for disease.
May	First notching	Make artificial swarms, notch for queen cells.
June	Increase	Make nucs; check for laying queens.
July	Requeening	Replace old queens, break Varroa cycle.
August	Feed	Build winter stores; unite weak nucs.
September–October	Winter prep	Ensure healthy young queens and bees.

11. The OTS Mindset

Disselkoen writes that *“beekeepers give direction to bees.”*

The success of OTS in the UK depends on adopting that proactive stance:

- Plan manipulations **around local weather, forage, and latitude**.
- Work with the bees’ instincts rather than against them.
- Rely on **locally overwintered stock** - your best queens are those that survive your winters.

12. Example: Yorkshire OTS Cycle

Richard's Beekeeping Year (example scenario):

- **May 10th:** Artificial swarm from strongest hive; parent hive notched.
- **May 17th:** Queen cells sealed; create three nucs.
- **June 10th:** New queens observed laying.
- **July 5th:** Dispatch May queens; notch brood to requeen post-solstice.
- **August 5th:** New July queens laying strongly; colonies fed.
- **October:** Nucs united or overwintered.

Result:

Started with one hive. Finished with three strong colonies and self-raised queens - no imports, no grafting, no chemicals.

13. Final Thoughts

OTS queen rearing is a **powerful, regenerative system** for UK beekeepers seeking:

- Self-sufficiency and sustainability.
- Locally adapted queens.
- Natural mite control and colony health.

When executed with **timing, observation, and respect for seasonal cycles**, OTS can transform a small apiary into a thriving, self-renewing network of colonies.