

**Royal Jelly**  
**Myth Conceptions**  
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**Is royal jelly a miracle therapy for humans?**

Royal jelly – a secretion from the pharyngeal glands of worker honey bees that is used to feed the larvae of the bee colony – is a truly amazing substance. Only the larva that gets royal jelly continuously will turn into a queen bee. The other larvae, which get diluted royal jelly for just a few days, become infertile worker bees. But the queen bee will be fertile, much larger and will live for years, not weeks or months.

This spectacular biological transformation led to the claims in the French bee-keeping press of the 1950s that royal jelly was a miracle therapy for humans. The royal jelly promotion got piggy backed onto the press by the first antibiotic, penicillin, which was performing truly marvellous cures.

Royal jelly is still a big business today. It costs about as much as caviar. It's claimed to fix appetite (too much or too little), blood pressure (too high or too low), mental state (depression or over stimulation), sexual desire (not sure whether too high or too low), wrinkles and, of course, ageing. It's available in many forms – added to drinks or yogurt, refrigerated or frozen as a paste or pills. But always the logic is that if it can turn an ordinary bee into a queen bee, it must do something wonderful for humans.

The humble bee is essential to our society. On one level, it gives us honey – the only secretion of another animal (apart from milk) that we regularly consume. But consider that the bee, via pollination, is responsible for one in every three mouthfuls of food that we eat. Each year in the US, a million beehives are shuttled cross-country to pollinate the almonds in California in February, the apple orchards of Washington in March, and so on. Even Australian bees are exported to California to help in the pollination.

Royal jelly is claimed to have all the amino acids that we need in our diet. That is true – but then so does meat. It is also claimed that royal jelly is very rich in vitamins – but this is incorrect. Royal jelly has hardly any vitamin C and even less (if any at all) of vitamins A, D and K. It does have some rather strange fatty acid. It has never been proved that royal jelly does anything positive for us. None of the studies looking at the claimed good effects of royal jelly on humans was well-designed – they lacked details on the exact test methods, had very small sample sizes, or tried to measure subjective human attributes (“rejuvenation” for example) that are impossible to measure.

So what the latest buzz on royal jelly? Just this year, Dr. Ryszard Maleszka and his colleagues from ANU busted open the secret of how royal jelly turns a regular egg into a queen bee. It seems that it alters how the bee DNA is read. Royal jelly works for bee DNA but not for human DNA.