





Seasons Greetings to all ! We certainly need some cheer at this time of the year. It has been a really difficult season for the horticulturists and beekeepers. We have had three "Springs" so far this year ! Even now we are having cold nights and I noticed today that my pear tree has started to bloom again !

The bees are really confused as there is little 'tucker' readily available for the increasing family in the hive. Some queens have cut down on the laying and there will be less honey gatherers when the nectar flow eventually does arrive after Christmas, which means lighter yields.

There have been three periods of swarming so far and I took a large swarm from an Olive tree in flower earlier this week. It was a good size, has settled in well and is storing nectar around the brood nest of eggs for the potential family.

Some people advise spreading the brood to promote faster build up but this year it would have been very detrimental as the cold nights would have chilled a lot of brood if they had not been covered by the colony.

Trying to get virgin queens mated has been a real headache as they are reluctant to fly in all weathers - like the drones – and many have left the hive but not returned. If they are not mated shortly after hatching they tend to become Drone Layers. If you are trying to raise Nucs be especially vigilant.

Things to be aware of this month are, robbing by wasps, make sure there is room for the queen to lay in good quality cells and the combs are not filled with pollen or debris. The bees will restrict the brood nest by placing honey in empty cells around the brood nest as these are the nearest to the entrance and they tend to fill any cell not occupied by eggs or larvae. Move poor quality comb to the outside of the brood nest or super and it will eventually become free of brood when you can remove it without loss of production. Generally speaking you should remove two frames from the brood nest super every year to keep it in good order.

Comb is old when you can't see the sun through it when you hold it up to the sky and can accumulate dirt and disease over the productive years.

Next meeting will be held in the Plunket Rooms – opposite the Warehouse in new Plymouth on Mon. 21<sup>st</sup> of December at 6.30 pm. When we will be discussing: The Season so far, when to add supers to the hive, wasp control, inspecting and manipulating the hive causing the least amount of robbing, when to take off your crop of honey and how to store it when you do.

See you all at the meeting when we will also fix a time and date for the next Field day at the club hives. To those who don't make it – have a Happy Christmas anyway !



<u>Next club meeting</u> **21st December 2009 In the PLUNKET ROOMS 6.30pm** Next to New World Supermarket <u>Third Monday of every month</u>

#### Wednesday, December 09, 2009

### L'Oreal Interested in Manuka Honey Formulations

Radio New Zealand, 12/9/2009

The therapeutic and medical uses of New Zealand manuka honey are being extended to include new skin care applications as well.

French cosmetic company L'Oreal is exploring these in a collaboration with the country's largest manuka honey producer, Watson & Son, and Professor Peter Molan of Waikato University.

Watson & Son chief executive Denis Watson says research has shown the honey's potential as an anti-aging treatment for skin, through its antioxidant and anti-inflammatory properties...



## Friday, December 11, 2009

### **Bee Venom Exhibits Anti-Cancer Properties**

#### Bee Venom Suppresses PMA-Mediated MMP-9 Gene Activation via JNK/p38 and NF-κB- Dependent Mechanisms

Journal of Ethnopharmacology, Article in Press, Accepted Manuscript

Bee venom has been used for the treatment of inflammatory diseases such as rheumatoid arthritis and for the relief of pain in traditional oriental medicine.

**Aim of the study**: The purpose of this study is to elucidate the effects of bee venom on MMP-9 expression and determine possible mechanisms by which bee venom relieves or prevents the expression of MMP-9 during invasion and metastasis of breast cancer cells. We examined the expression and activity of MMP-9 and possible signaling pathway affected in PMA-induced MCF-7 cells.

**Material and methods**: Bee venom was obtained from the National Institute of Agricultural Science and Technology of Korea. Matrigel invasion assay, wound healing assay, zymography assay, western blot assay, electrophoretic mobility shift assay and luciferase gene assay were used for assessment.

#### Sunday, December 13, 2009

Bee Venom Acupuncture Helps Treat Methamphetamine Addiction

Bee Venom Suppresses Methamphetamine-Induced Conditioned Place Preference in Mice

Neurological Research, Volume 32, Supplement 1, February 2010, pp. 101-106(6)

**Objectives**: Although acupuncture is most commonly used for its analgesic effect, it has also been used to treat various drug addictions including cocaine and morphine in humans. This study was designed to investigate the effect of bee venom injection on methamphetamine-induced addictive behaviors including conditioned place preference and hyperlocomotion in mice.

**Methods**: Methamphetamine (1 mg/kg) was subcutaneously treated on days 1, 3 and 5 and the acquisition of addictive behaviors was assessed on day 7. After confirming extinction of addictive behaviors on day 17, addictive behaviors reinstated by priming dose of methamphetamine

**Results**: Bee venom inhibited cell invasion and migration, and also suppressed MMP-9 activity and expression, processes related to tumor invasion and metastasis, in PMA-induced MCF-7 cells. Bee venom specifically suppressed the phosphorylation of p38/JNK and at the same time, suppressed the protein expression, DNA binding and promoter activity of NF- $\kappa$ B. The levels of phosphorylated ERK1/2 and c-Jun did not change. We also investigated MMP-9 inhibition by melittin, apamin and PLA2, representative single component of bee venom. We confirmed that PMA-induced MMP-9 activity was significantly decreased by melittin, but not by apamin and phospholipase A2. These data demonstrated that the expression of MMP-9 was abolished by melittin, the main component of bee venom.

**Conclusion**: Bee venom inhibits PMA-induced MMP-9 expression and activity by inhibition of NF- $\kappa$ B via p38 MAPK and JNK signaling pathways in MCF-7 cells. These results indicate that bee venom can be a potential anti-metastatic and anti-invasive agent. This useful effect may lead to future clinical research on the anticancer properties of bee venom.

# **Apitherapy News**

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(0.1 mg/kg) was evaluated on day 18. Bee venom (20 µl of 1 mg/ml in saline) was injected to the acupuncture point ST36 on days 1, 3 and 5.

**Results**: Repeated bee venom injections completely blocked development of methamphetamine-induced acquisition and subsequent reinstatement. Single bee venom acupuncture 30 minutes before acquisition and reinstatement test completely inhibited methamphetamine-induced acquisition and reinstatement. Repeated bee venom acupunctures from day 8 to day 12 after methamphetamineinduced acquisition partially but significantly suppressed reinstatement.

**Discussion**: These findings suggest that bee venom acupuncture has a preventive and therapeutic effect on methamphetamine-induced addiction.