

# **A REVIEW OF THE PAINTED APPLE MOTH ERADICATION PROGRAMME - JANUARY 2003**

**Kubi Witten-Hannah**

Everyone acknowledges that mistakes have been made in dealing with the painted apple moth incursion. That is all history and while it is important to learn lessons for the future what is important now is to constantly re-evaluate where we are and how we should proceed. As the painted apple moth spreads and public opposition to aerial spraying mounts some solutions that seemed acceptable a year or even six months ago are now no longer workable. The Ministry of Agriculture and forestry (MAF) needs to work with the community to develop an approach that can succeed.

On September 5th 2001 I received a letter of appointment to the Painted Apple Moth Community Advisory Group. (PAMCAG) This group was enjoined to liaise between MAF and the community with the goal of achieving the safe eradication of the painted apple moth. Tension between the PAMCAG and MAF arose from MAF being more used to operating in the rural environment and the CAG wanting to find solutions that would suit an urban population wary of sprays and high tech solutions. This tension was healthy because it challenged each party to confront the issues raised by the other.

I am as keen as Mr Robert Isbister and Mr Ian Gear to see the moth eradicated and would like to help them achieve that goal. I have committed considerable amounts of my time and energy to that goal as have other CAG members. Unfortunately direct communication has broken down and neither TV nor radio sound bites nor letters to the editor are satisfactory ways to conduct a dialogue over a complex issue such as this.

Around the time of the general election last year dialogue broke down and mistrust and suspicion arose between MAF and PAMCAG. This eventually led to MAF 'sacking' the PAMCAG. We would like to invite the Ministry to reconsider this decision because we believe that informed dialogue between community representatives and government agencies is essential. The members of the PAMCAG remain committed to the safe eradication of the moth. We have built up knowledge of the issues and trust in the community that will take time for a new group to gain. The ministry initially planned to have a new group established by the beginning of December. It is still not in place today.

Many of the problems MAF are now facing spring from a lack of a good relationship with the community. An example is the belated and heavy handed imposition of vegetation controls. Fifteen months earlier we had advised them of how to go about establishing effective vegetation movement controls based on public cooperation rather than threats of draconian penalties. It is also no surprise that since the breakdown of dialogue between MAF and CAG there has been a proliferation of groups implacably opposed to the way the operation is being conducted. Some of these groups reject the value of eradication of the moth altogether.

The goal of safe eradication is not being met by the current operation because it is neither safe nor effective. The initial targeted aerial spraying failed because the spread of the moth was not clearly delineated and the spraying was not supported by effective measures to stop further spreading of the infestation. Problems also arose because of the difficulty of reaching all the vegetation that needed to be treated. MAF acknowledged the failure of its operation and considered several options including giving up and the current blanket spraying of an enlarged area.

The PAMCAG presented them with an extra option which became known as the Community Option because it relied on turning the problem of dealing with an urban incursion into an advantage by enlisting the community's support. The Community Option did not appeal to MAF. I believe that because of their rural experience and the mistrust generated with 1080 drops they did not accept that the community could be an ally. If they had looked more carefully at such programmes as Operation Forest Save and its spin-offs they would have seen that community acceptance can be a powerful tool.

The PAMCAG was not allowed to present its proposals directly to the politicians and an unsympathetic presentation by MAF meant its rejection by cabinet. This was despite its endorsement by a workshop of scientists assembled by the PAMCAG and including members of the team that successfully eradicated the white spotted tussock moth from east Auckland. It is our understanding that abandoning the eradication attempt was initially MAF's preferred option.

That option was rejected in favour of blanket spraying largely because it was seen that if the goal of eradication was abandoned there were no effective control measures that could limit the spread of the moth and the damage it could cause. Blanket spraying was endorsed with funding of \$90 million dollars committed. Despite the advice of the Community Option, which promoted both control and eradication, inadequate resources were committed to developing control techniques in the event that blanket spraying was unsuccessful.

Blanket spraying is having considerable success in killing off moths. This is a tribute to the professionalism of those carrying out the operation. However as well as creating major health issues it is also failing because killing most, or indeed nearly all, of the moths is not enough. One female moth can produce 700 or more eggs so that even a handful surviving in what will be a benign environment once the spraying stops will be enough to allow for rapid reinfestation.

We are concerned that not only are moths being located outside the spray zone but that they are still being trapped within the zone. In the most sprayed area of all, Waikumete Cemetery, moths have still been found. This is likely to be happening for two main reasons. First because the layered nature of the vegetation means that it is difficult for the spray to penetrate to vegetation below the upper canopy. The second reason is that it has been difficult for MAF to find the ideal weather in which to spray.

Their preferred option is to spray in light wind that will allow the spray to drift in to the target vegetation. The operation has been hampered by rain and high winds and as a consequence MAF has been forced to spray on calm days when the wind has not been in the range that will allow the spray to drift into its target.

It is time for the government to reconsider the Community Option. Two of the cornerstones of that option would not only enhance the possibility of eradication but also the prospect of effective control in the event that eradication is no longer achievable.

The first of these that needs to be implemented immediately is the eradication of all unwanted wattles from the Auckland area. Most importantly this operation should target those wattles in the rail and road transport corridors that are greatly contributing to the spread of the moth. MAF figures place over 85% of larval finds in wattle trees. While they have carried out some strategic removal of wattles they reject the suggestion of widespread removal because they believe the moth will simply shift to other species.

Entomologists consulted by the PAMCAG believe that removal of wattles would reduce not only the ease with which the moth can spread but also its ability to thrive thereby buying valuable time in the battle for eradication. Experts have assessed the cost of wattle removal at \$3 million with a further \$1 million dollars needed to assist council and community groups with appropriate replanting. Given the part wattles are playing in the development of the painted apple moth problem this seems a small slice of MAF's \$90 million budget. It has obvious additional benefits in enhancing the environment.

The second and most essential building block for a successful eradication and/or control operation is the development and employment of a synthetic pheromone. MAF acknowledges the value of a synthetic pheromone and has put resources into developing one. They will not, however, support the parallel programme of Dr John Clearwater and his associates.

Given the importance of pheromone development MAF should be jumping at the chance to support a second programme. Dr Clearwater has a proven track record. He was responsible for the successful development of a synthetic pheromone to combat the white spotted tussock moth. Against all the odds and employing his own resources Dr Clearwater has made good progress on developing a pheromone for the painted apple moth.

Why then won't MAF provide a quarter of a million dollars to help him on his way? There appear to be two main reasons. One revolves around professional jealousy within New Zealand's small scientific community. Dr Clearwater no longer works for MAF and some within the ministry appear to resent his success and standing within the community. A more fundamental problem revolves around how a synthetic pheromone will be employed once it has been developed.

MAF favours the use of the pheromone only to replace the female moths currently used in the indicative trapping programme. They rightly see that this would allow for an expansion of that programme and therefore make it easier to delineate just where the moth has spread.

Dr Clearwater favours the additional use of a synthetic pheromone as a control technique and as part of an eradication programme. His approach involves using a proprietary system that uses small amounts of paste laced with pheromone and poison to attract and kill male moths. It is an ideal technique for an urban situation.

If one household every 500 metres agreed to have the paste in a tree then there would be a good chance of eliminating male moths and therefore the chances for females to be fertilised. I believe that almost every household would be keen to support such a programme. This approach would not only be very useful in the current attempt at eradication but it also has potential for long term control if required and for rapid deployment should a fresh introduction of the moth occur. There are no guarantees that a pheromone development programme will be successful but it must be worth ploughing resources into. It is also vital that we don't rely on only one team to come up with a successful formula.

The PAMCAG has worked for safe and effective eradication. Having outlined the problems hampering effectiveness I would like to turn to problems of safety. Before aerial spraying began I received advice that significant health problems would be suffered by perhaps one percent of those sprayed. Experience has shown us that the percentage is at least 5% in the adult population and higher among children.

These effects include serious respiratory problems; rashes; and vomiting and diarrhoea. These have been serious enough to disrupt people's lives and in some cases have cost them their employment as well as considerable medical expenses. For children these problems are compounded by the fear factor associated with the low flying aircraft.

Doctors treating these patients are flying blind. MAF won't reveal the contents of the spray for reasons of commercial confidentiality. Instead they seek to reassure a sceptical public that all the additives are found in food or cosmetics and are perfectly safe. When these products are used in commercial products the contents are listed on the labels and those who are sensitive can avoid them. Needless to say there are also substances that may be safe to use in a controlled manner that you wouldn't want squirted up your nose. Ignorance of the contents of the spray also makes it difficult to assess just what long term health effects there may be. This fact is of particular concern to pregnant women and the parents of young children.

MAF is operating a health programme but many people have found the staff of the firm contracted to provide that service inquisitorial and dismissive of their concerns. In almost all cases the contractor has been unwilling to meet the medical bills of those affected. Based on the 5% figure (quoted by cabinet minister, Marion Hobbs), in excess of 10,000 people living and working in the spray zones are being significantly affected. Of these approximately 1000 are being evacuated.

The challenge of getting through the barriers to get this kind of help are daunting enough for anyone. For the inarticulate or non-native speaker of English they are overwhelming. Even for those evacuated the costs are high and no part of the \$90 million is available to meet the losses of individuals or businesses suffered as a result of being sprayed or avoiding the spray. Avoidance is not always practical. How will schools and child care centres cope with closed windows and doors in the heat of February?

Waitakere City Council has provided valuable support to the PAMCAG and has taken up a PAMCAG proposal that would see people receiving free treatment from their own medical practitioners. MAF is considering it but the Ministry is dragging its heels over settling details of implementation.

Failure to address people's legitimate health concerns will not only jeopardise this operation but it has the potential to seriously hamper the response to any future bio-incursion. Safe eradication is not yet unattainable but if MAF does not change its approach then achieving eradication will be impossible and the cost to public health will have been in vain.

### **Kubi Witten-Hannah.**

#### **Notes:**

Kubi is Chairman of the Painted Apple Moth Community Advisory Group. At the time of the spraying he worked as a high school teacher in the heart of the painted apple moth spray zone. He chairs the West Coast Plan Liaison group and the Karekare Surf Club. He is also a volunteer rural fire-fighter and a member of the Waitakere Community Board.

An edited version of this paper was published by the New Zealand Herald on 6<sup>th</sup> January 2003 entitled "*We need new ways of beating the moth.*"