



Review of the Food (Tutin in Honey) Standard 2010 and Food (Tutin in Honey) Amendment Standard 2011

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1 Submissions

The Ministry for Primary Industries seeks submissions from all interested parties on proposed changes to the Food (Tutin in Honey) Standard 2010 and Food (Tutin in Honey) Amendment Standard 2011. These proposed changes are mainly consequential to the recent reduction in the maximum level for tutin in honey in the Food Standards Code.

The following points may be of assistance in preparing comments:

- Wherever possible, comments should be specific to a particular section of this document. All major sections are numbered and these numbers should be used to link comments to the document.
- Where possible, reasons and data to support comments are requested.
- The use of examples to illustrate particular points is encouraged.
- As a number of copies may be made of your comments, please use good quality type, or make sure the comments are clearly handwritten in black or blue ink.
- Please include the following information in your submission:
 - ✓ The title of the discussion document;
 - ✓ Your name and title (if applicable);
 - ✓ Your organisation's name (if applicable);
 - ✓ Your address; and
 - ✓ The number(s) of the section(s) you are commenting on.

Please submit your response by 5:00pm on Friday 4 December 2015.

Your comments should be sent to:

Jim Sim
Animal and Animal Products Directorate
Ministry for Primary Industries
PO Box 2526, Wellington
Email: animal.products@mpi.govt.nz

2 Official Information Act

The Official Information Act 1982 (OIA) states that information is to be made available unless there are grounds for withholding it. The grounds for withholding information are outlined in the OIA. Submitters may wish to indicate any grounds for withholding information contained in their submission. Reasons for withholding information could include that information is commercially sensitive or that the submitters wish personal information such as names or contact details to be withheld. MPI will take such indications into account when determining whether or not to release information. Any decision to withhold information requested under the OIA may be reviewed by the Ombudsman.

3 MPI's role in reviewing regulation

The effective management of risks in the food supply is an essential MPI function. MPI aims to protect consumers by basing risk management decisions on sound science and evidence, and by taking a precautionary approach when faced with scientific uncertainty.

This consultation paper is intended to help ensure that an appropriate risk-based approach is taken to managing the change in maximum level and feedback is received from all interested parties. It covers:

- the operation of the Standard currently;
- whether the Standard should remain at status quo or be amended; and
- if the Standard were to be amended, what possible changes might be made.

4 Why does New Zealand have a standard for tutin?

Tutin is a toxin produced by the shrub *Coriaria arborea* (tutu) which is native to New Zealand. The passion vine hopper insect, *Scolytopa australis*, feeds on the sap of tutu plants and excretes honeydew that contains tutin. This honeydew can be collected by bees for honey production and cannot be distinguished by taste, sight or smell from non-toxic honeys. Tutin is highly toxic to humans even in extremely small amounts.

Tutin may contaminate both comb honey and extracted honey. Because bees fill honeycomb progressively and often from a variety of nectar or honeydew sources over time, tutin can be distributed unevenly in comb honey within a single hive. Comb honey poses a greater risk because it is eaten directly off the comb, increasing the chance of consuming honey with a high concentration of tutin.

The process of extracting honey tends to even out the concentration of tutin, especially if the honey is well mixed in the extraction process. Commercially extracted honey is often blended with other honey which may further reduce the overall concentration of the toxin.

There have been 36 reported tutin poisonings since 1980. Reported poisonings are likely to be only a percentage of the actual number of poisonings as some people who are poisoned may not connect their illness with honey, particularly if the symptoms are not severe enough to require hospitalisation or if patients and physicians do not connect the symptoms to honey consumption.

5 Background to the current standards

A severe poisoning incident in the Coromandel in 2008 was the catalyst for establishing maximum allowable levels of tutin in honey. Previous to a limit being set various regulatory controls had focused on measures beekeepers should be taking to avoid the problem occurring. These measures included removal of beehives from areas in the Coromandel and Eastern Bay of Plenty and more recently, a requirement for beekeepers to complete harvest statements to the effect that there was no tutin risk in the areas the honey was harvested from. These controls provided an uncertain level of protection for the consumer.

In response to the poisoning incident the Ministry for Primary Industries (MPI) predecessor, the New Zealand Food Safety Authority (NZFSA), established a maximum level of tutin in extracted or blended honey of 2 mg/kg. A lower maximum level of 0.1 mg/kg was established for comb honey to account for potential variability in tutin distribution across honeycomb. These limits were set in the Food (Tutin in Honey) Standard 2008 and were designed to be replaced by limits in the Food Standards Code in time. The Food (Tutin in Honey) Standard 2008 also contained a number of control measures beekeepers had to take to ensure honey was safe.

These maximum levels were then taken into Standard 1.4.1 of the Australia New Zealand Food Standards Code (the Code) as temporary levels in August 2009 with an initial expiry date of 31 March 2011 as interim protection while further research was undertaken. This expiry date was later twice extended to 31 March 2015. The maximum levels were reviewed in 2014 and new permanent maximum levels were set in March 2015 of 0.7mg/kg for both comb and extracted honey.

In 2010, NZFSA reviewed the controls in the Food (Tutin in Honey) Standard 2008 which set out options for persons producing honey to demonstrate compliance with the maximum levels set in the Code. This review resulted in the Food (Tutin in Honey) Standard 2010 which later had an amendment in 2011 to clarify one of the available control options. Review of the Food (Tutin in Honey) Standard 2010 has been proceeding slowly since 2012 as certainty was needed as to the permanent maximum level in order to complete the review.

6 Why did the maximum level change?

The maximum levels for tutin in honey set out in the Food Standards Code were a temporary protective measure while further MPI funded toxicological research was undertaken. This research was completed in 2014 and found that much of the tutin in toxic honey is in a bound form not measurable by currently available analytical methods. These bound forms of tutin have glucose attached and are chemically known as tutin glycosides. Tutin glycosides in honey are most likely converted in the human digestive process to tutin which then appears in blood plasma several hours after consumption. Some individuals were found to be able to very efficiently convert tutin glycosides into tutin and therefore the temporary maximum levels for tutin in honey of 2 mg/kg was not sufficiently protective of human health.

The maximum level for tutin in honey in the Food Standards Code was consequentially reduced from 2 mg/kg to 0.7 mg/kg while the maximum level for tutin in comb honey was increased from 0.1 mg/kg to 0.7 mg/kg. (The previous ML for comb honey was set low at 0.1mg/kg to account for the variability of tutin levels in comb honey. Harm to the consumer

however is as a result of the tutin in the final product and there is no difference in risk between comb honey containing tutin below 0.7mg/kg and extracted honey containing tutin below 0.7 mg/kg.)

However, ensuring comb honey will meet this limit requires more stringent controls than for extracted honey. The increase in the maximum level for tutin in comb honey was only possible because the stricter Food (Tutin in Honey) Standard 2010 compliance options for comb honey can manage the variability of tutin distribution in comb honey to ensure no part of the final product will exceed the ML.

The new maximum tutin level of 0.7mg/kg level came into effect in New Zealand law on 12 March 2015.

Further information on the setting of this permanent limit can be found on the FSANZ website at: <http://www.foodstandards.gov.au/code/proposals/Pages/P1029-Maximum-Level-for-Tutin-in-Honey.aspx>

7 What is being reviewed and why?

7.1 SCOPE OF THE REVIEW

MPI is reviewing the Food (Tutin in Honey) Standard 2010 and Food (Tutin in Honey) Amendment Standard 2011 (referred to in combination as the 'Tutin Standard') due to the change in maximum level for tutin. The Tutin Standard implements various compliance options for processors to demonstrate that any tutin in honey is below the maximum level and contains a number of other requirements. As the maximum level these compliance options are designed to meet has been changed, these compliance options need to be reassessed to ensure they are still fit for purpose. It is also timely to review the other requirements of the Tutin Standard to ensure they remain appropriate so all of the Tutin Standard has been reviewed.

This consultation paper firstly considers whether the Tutin Standard is still needed and if so in what form. The options considered were:

- revoking the current Standard
- retaining the current Standard unchanged; or
- revising the provisions of the Standard.

7.1.1 Option 1 – Revoking the current Standard

MPI has considered the option of revoking the Standard entirely. If the Standard was revoked, the maximum level for tutin in the Code would still apply and it would be the responsibility of persons selling honey to ensure that their honey met the maximum limit by whatever means they saw fit. MPI could provide guidance material to help inform sellers of honey. The public would still be provided some protection from the risk of tutin contamination in honey.

Tutin has more severe acute effects than most other regulated chemicals. As tutin can be fatal to humans it would be consistent for MPI to prescribe control measures for compliance. This is the approach taken for marine biotoxins in shellfish for example. Because of the risks associated with marine biotoxins, shellfish are required to meet additional sampling and testing requirements to ensure they are safe to eat before they are sold.

It is also important to note that in setting the raised comb honey limit, FSANZ relied on the controls in the Standard continuing to be applied. FSANZ originally released a call for submissions on a proposed draft variation to the Code in July 2014 which set the maximum level for comb honey at 0.01mg/kg. MPI expressed concern that this maximum level for comb honey would conflict with the New Zealand Food (Tutin in Honey) Standard 2010. FSANZ consequently amended the draft to set the current maximum level of 0.7 mg/kg for all honey (including comb honey) in the Code. FSANZ stated that the compliance options mandated by the Standard would assure the safety of comb honey at retail sale.

Additionally if the Standard was revoked, there would be a consequential risk to the reputation of New Zealand honey and international trade due to the lack of a pro-active compliance system for tutin management, despite it posing a serious threat to consumer safety. Limits on their own do not necessarily ensure a preventative system is sufficiently in place.

Systems also need to be in place to underpin export certification and market access so revoking the Standard may well lead to an equivalent system being required to support official assurances.

It is important to have a means of protecting public health under the Standard instead of after the fact punishment once maximum levels are breached.

Consequently revoking the Standard, which serves as an added protection for consumers, is not the preferred option.

7.1.2 Option 2 – Status Quo: Retaining the existing Standard unchanged

The existing Standard appears to be working well to ensure both extracted and comb honey meets the previous maximum limits. MPI sampling and testing has found no tutin above the maximum limit in samples taken by MPI to verify the system. No poisonings have been reported from honey for sale where the Standard was being complied with. (A poisoning did occur in 2014 where a beekeeper ate his own honey before it had been tested).

The testing option for comb honey was explicitly relied upon by FSANZ when making the decision to increase the maximum level of tutin in comb honey. This suggests that amendments are not required to the parts of the Standard relating to comb honey.

However, the reduction in the maximum limit for extracted honey has clearly changed the safety margins built into the 2010 Standard and some of these appear to need adjustment to compensate for the reduction in the maximum limit. In addition the requirement to report results appears to need revocation. The reasons for this are discussed further in section 8.8 below.

7.1.3 Option 3 – Amend the existing Standard

Although the existing Standard appears to be working well to ensure both extracted and comb honey meets the previous maximum limits the change in limits suggests consequential adjustments should be made to some of the compliance options to ensure the standard remains fit for purpose in to ensure the new limits are met.

While no poisonings have been reported from honey for sale where the Standard was being complied with it is clear from the toxicological work¹ undertaken to support setting the permanent limit, that insufficient safety margin was afforded by the previous limits.

The testing option for comb honey was explicitly relied upon by FSANZ when making the decision to increase the maximum level of tutin in comb honey. However with the increase in the tutin ML for comb honey, it is appropriate to re-examine the control measures available to see if some relaxation of comb honey controls could be accommodated.

For the reasons above, MPI is of the view that the existing Standard should be amended to take account of the change in the maximum level for extracted honey and also address any other matters that need to be addressed, for example the requirement to report results. The current Standard and areas where it can be improved are discussed in detail in Section 8. Appendix 1 contains a marked up version of the Standard with MPI's proposed changes.

8 Key provisions in the Food (Tutin in Honey) Standard 2010 and changes proposed

The Standard applies to honey produced between 1 January and 30 June in any given year. It requires persons who pack or export honey to demonstrate compliance via at least one of the following six options:

- Option one: Holding test results;
- Option two: Holding harvest records that demonstrate low risk harvest date;
- Option three: Holding records that demonstrate absence of tutu;
- Option four: Holding records that demonstrate low risk location; or
- Option five: Holding records that demonstrate low risk in areas by targeted testing of honey.

Honey that exceeds the maximum level for tutin is not compliant with the Standard, regardless of whether compliance with any of the above options can be demonstrated. This is because the primary aim of the Standard is to protect public health; honey that exceeds the maximum level for tutin is not considered safe.

8.1 WHO MUST DEMONSTRATE COMPLIANCE

*(a) the last person to pack honey that is intended for sale for human consumption in a package that comes into immediate contact with the honey; and
(b) any person who is exporting honey (other than a person who is exporting the honey to a country in relation to which a lower maximum level has been specified in a overseas market access requirement issued under section 60 of the Animal Products Act 1999).*

This section essentially requires the last person in the chain who is packing honey into retail containers or bulk containers for export to hold the necessary documentation to demonstrate the Standard has been met.

¹ <http://www.foodstandards.gov.au/code/proposals/Pages/P1029-Maximum-Level-for-Tutin-in-Honey.aspx>

In practice many businesses that purchase honey in bulk for re-packing have required test results to be supplied by beekeepers for batches of honey they have purchased rather than testing the product themselves. This prevents the packer finding themselves with the problem of having to blend non-compliant batches of honey unknowingly. However it does mean a lot of testing done at the beekeeper may occur before the honey can be thoroughly blended which ensures any sample taken is truly representative of the product.

8.2 BEEKEEPER REQUIREMENTS

(1) A beekeeper who supplies honey to a person described in clause 6(1)(a) or (b) must—

(a) maintain the records necessary to enable the person that he or she is supplying to demonstrate compliance with this standard; and

(b) provide a written statement when requested to do so in accordance with clauses 9 to 12.

(2) Where the beekeeper is also the person described in clause 6(1)(a) or (b) equivalent records must be kept to demonstrate compliance with this standard.

The primary responsibility for ensuring honey contains compliant levels of tutin rests with the beekeeper through ensuring that either they have tested the honey or met one of the other compliance options. There is the option of selling the honey to a packer untested and the packer then has to blend and test the honey.

8.3 OPTION ONE: HOLDING TEST RESULTS

(1) Option one is for the person to hold test results of samples taken and tested in accordance with the relevant requirements described in Part 2 of this Standard demonstrating that the maximum level has not been exceeded.

(2) A person must not sell honey for human consumption or export until the person has received the results of the analysis samples taken and tested in accordance with subclause (1).

(3) The results must be kept for four years from the date on which the honey is packed for sale for human consumption or exported.

(4) This option is not available for production of box section comb honey

Homogenising and testing honey has been the most reliable way to demonstrate compliance with the Standard. Honey samples can now be tested to detect very low levels of tutin. While other options may manage the risk of tutin contamination to some extent, testing of homogenised batches is the only way to be certain how much tutin is actually in a given product and therefore is an appropriate method regardless of the maximum level.

There are significant issues with the testing process however. The homogenising of honey remains a significant difficulty in testing. Honey needs to be mixed thoroughly, so that any tutin content is evenly distributed. Many beekeepers lack the equipment to thoroughly mix honey. Testing may however be done before the honey is homogenised provided the sampling is truly representative of the honey packed. This may be done by a continuous bleed sampler in the honey line or using a core sampler in a drum. If this option is used, the samples need to be analysed per bulk container (Usually a drum or pallecon) because the tutin levels may vary

from container to container. However the honey still needs to be homogenised before packing to dilute any tutin hot spots in it.

The cost of testing has generally reduced, due in part to competition between laboratories and the volume of samples being tested. A number of commercial beekeepers have informed MPI that testing was more cost-effective for them than other compliance options.

However with the new maximum level, less samples can be composite tested which is less cost effective unless laboratories are able to lower the limit of detection/ quantification. The number of samples that may be composited for analysis will vary depending on the sensitivity of the methods used for analysis. This may result in more testing being necessary than under the previous ML. There may also be issues sourcing uncontaminated honey for blending.

The standard only requires testing where honey has been harvested in a situation where it is likely to have some tutin in it or where none of the other compliance options are possible or have been followed. Given testing has been available for some time now, areas where highly toxic honey is produced should now be known and avoided for honey production altogether after 1 January, especially for comb honey.

This option does not apply to box section comb honey. This is because box section comb honey is the product and cannot be successfully representatively sampled without destruction of the product itself. Testing to ensure honey complies with the Standard requires submitting samples from each batch of honey before it is put in containers for sale. A representative sample may be taken when filling a bulk container before the honey is mixed into a homogenous batch or by core sampling from a drum. This allows beekeepers to sample honey where they lack the facilities to homogenise it. However it is critical to ensure that samples taken during drum filling are truly representative of the batch of honey being extracted. MPI is aware of instances where beekeepers have been reliant on the extraction process itself as being the only homogenisation of their honey. This will lead to results that may not reflect the true nature of the tested batch if further homogenisation is not undertaken prior to packing and risks production of unsafe product.

The testing laboratory may combine samples from multiple batches for analysis if asked to do so by the person seeking the test and if doing so will not compromise the test result.

Persons who choose to meet the requirements of the Standard by testing may not sell their tested product until they have received the results of the testing.

It is MPI's view that option one in the Standard should remain unchanged. Homogenising honey batches and testing them is the most certain way to ensure compliance with the maximum level.

MPI Proposal

Option one in the Standard should remain unchanged.

8.4 OPTION TWO: LOW RISK HARVEST DATE

Holding harvest records that demonstrate low risk harvest date

(1) Option two is for the person to hold a written statement from the beekeeper supplying honey confirming that the beekeeper holds records that demonstrate that the honey has been taken from honey supers placed onto hives after 1 July in any year and removed from those hives by 31 December in the same year.

(2) The records must be kept for four years from the date on which the honey is packed for sale for human consumption or exported.

This option requires a written statement from beekeepers confirming records that demonstrate honey has been taken from honey supers placed onto hives after 1 July in any year and removed from those hives before 31 December in the same year.

This option applies irrespective of whether hives have remained in one place or not over the period because honey produced during this period of the year is not likely to be at risk of tutin contamination.

There is only one generation of vine hoppers each year, generally emerging between October and December and then taking nearly three months to develop. Adults are typically present from January to March, but in warmer parts of the North Island some may appear in December and a few may survive until late May. Low levels of tutin (less than 0.1 mg/kg) have been found in honey harvested in November and December in Northland in an MPI survey undertaken in 2008. It is possible that low levels could also occur in other warm parts of the country in honey harvested before 1 January. It is unclear whether these low levels are as a result of early vine hopper activity or bees shifting contaminated late season honey up into honey supers as they make room for brood in the bottom boxes in the spring.

It is MPI's view that option two in the Standard appears to work but that further research involving testing of honey harvested prior to 1 January from areas of highest risk of early season vine hopper activity should occur to confirm this compliance option continues to be appropriate. This is especially warranted with the recent change in maximum level.

This option is a practical way for a small beekeeper to comply with the Standard but may mean much of the season's crop has to be left on the hive or harvests may occur in two stages with the later harvest being subject to one of the other control options.

Beekeepers need to keep records detailing; hive locations, dates honey supers were placed on hives and dates supers were taken off hives. Hive diaries or similar may be sufficient for this purpose.

MPI Proposal

Option two in the Standard should remain unchanged noting further research into tutin in early season honey needs to be undertaken.

8.5 OPTION THREE: ABSENCE OF TUTU

Option three: Holding records that demonstrate absence of tutu

(1) Option three is for the person to request and hold a written statement from the beekeeper supplying the honey that confirms that the beekeeper holds records that—

(a) identify the geographical location of all of the hives from which the honey has been harvested (either on a topographical map at the standard scale of 1:50,000 or by global positioning system); and

(b) *demonstrate that tutu is not significantly present within the predictable range of bee foraging from those geographical locations.*

(2) *The statement must be kept for four years from the date on which the honey is packed for sale for human consumption or exported.*

This option involves demonstrating that tutu is not significantly present within the predictable range of bee foraging from the hives, as shown through a topographical map or by global positioning system.

If a thorough check of the likely bee foraging radius around beehives does not find a significant quantity of tutu, then this may be used to justify taking no further action to manage for tutin. The likely bee foraging radius will vary greatly depending on topography, for example, bees are unlikely to fly over a mountain range to forage. It will also vary depending on the availability of floral sources in the area and time of year. Documentation to support this option includes 1:50,000 scale topographical maps showing the location of beehives together with detailed notes or photographs of areas likely to contain tutu that have been surveyed. Records must be kept of; the areas that have been checked, dates areas were checked and numbers and sizes of tutu bushes found.

If a thorough check of the likely bee foraging radius around beehives does not find a significant quantity of tutu, then this may be used to justify taking no further action to manage for tutin. Where any tutu is present, checks need to be made of these areas periodically and records kept of these checks to ensure that the numbers and sizes of plants present have not built up to a point where they may present a risk. Where changes are likely to impact upon the status of an area occur, checks will need to be made on a regular basis (annually should be sufficient) to check for colonising growth of tutu.

It is unclear how well this option has been implemented. There is a lot of concern from MPI over whether records have been kept accurately enough. It is now questioned whether low level testing should be undertaken to verify the results. It must be considered whether further, more specific record keeping requirements are needed. Yet if this process has been followed correctly, there is a high level of confidence in the method, even at the new maximum level. Additionally the new maximum level for comb honey makes this option more viable for demonstrating that comb honey is compliant.

There are a number of impediments to being able to survey for tutu in a sufficiently thorough manner to be able to rely on this option including the challenges created by topography, restricted access to private property, and the sheer amount of work to cover the predictable foraging range around many beehives so it is only feasible for use in a limited number of circumstances. If surveys are not sufficiently thoroughly done, this option may not adequately protect consumer safety and may not be an appropriate method for determining that the maximum level of tutin in honey has not been breached.

MPI Proposal

Option three in the Standard should remain unchanged. This is a viable option for beekeepers to use recognising it has to be undertaken diligently to be successful.

8.6 OPTION FOUR: LOW RISK LOCATION

Option four: Holding records that demonstrate low risk location

(1) *Option four is for the person to request and hold a written statement from the beekeeper supplying honey that confirms that the beekeeper has records that –*

(a) identify the geographical location of all of the hives from which the honey has been harvested (either on a topographical map at the standard scale of 1:50,000 or by global positioning system); and

(b) confirm that each of those locations is in a low risk area.

(2) A low risk area is the South Island below latitude 42 degrees South including all offshore islands below latitude 42 degrees South.

(3) The statement must be kept for four years from the date on which the honey is packed for sale for human consumption or exported.

This option involves showing, either on a topographical map or global positioning system that hives are located anywhere in the South Island below latitude 42 degrees South, including all offshore islands. The current risk management line of 42 degrees South is based partly on what little is known of the ecology of the vine hopper and partly on the results of a limited MPI field survey for *Scolypopa australis* undertaken in the summer of 2009.

The reporting requirement in the 2010 Tutin Standard was largely designed to provide data to assist informing the areas where tutin could be found in honey more definitively. However, comparison of data submitted and numbers of tests actually undertaken by the commercial testing laboratories has shown that MPI has received results for only around one third of testing actually undertaken. Additionally, much of the testing data submitted related to either composite testing results which mask low tutin levels or were from tests done on blended batches where it was not possible to ascribe tutin tests to specific areas. This was expected recognising most honey is being compliance tested rather than with a view to determining risk which is option 5 in the Standard. It also appeared from close examination of the data supplied by testing laboratories that many of the higher tutin level results had not been submitted.

Despite these data limitations, MPI has attempted mapping of the non-composite test data where it could be mapped to specific areas. This showed some map sheets had as few as only one or two results over the four year period studied which was clearly insufficient to draw any conclusions as to the safety of honey in those areas.

There also appears to have been no significant studies of *Scolypopa australis* and factors affecting its distribution since the last review in 2010 to provide a case for a different geographical approach to managing for this problem.

It is also noted that the seasonal variation in vine hopper numbers, the impact of climate change and the presence of microclimates makes refinement of this option difficult.

Alternatively, beekeepers could commission a study of vine hopper distribution in order to provide much needed data.

MPI would welcome data to review the current location coordinates. MPI's goal for the Standard is to have a sufficiently built up dataset to continually define risk areas and times as accurately as possible.

MPI Proposal

MPI proposes that this option remain with some wording changes to assist clarity.

It is MPI's view that there is currently not sufficient evidence to amend the boundary for controls to apply above 42 degrees south but welcomes submissions with supporting data to enable refinement of this option. Should more definitive information on the distribution of *Scolypopa australis* be forthcoming in the future, MPI will review this option.

8.7 OPTION FIVE: LOW RISK AREA DEMONSTRATED BY TESTING

Option five: Holding records that demonstrate low risk in areas by targeted testing of honey

(1) Option five is for the person to request and hold a written statement from the beekeeper supplying honey that confirms that the beekeeper has records that—

(a) specify the location of all apiaries from which the honey is harvested for sale for human consumption or export; and

(b) confirm that targeted honey samples have been tested for the presence of tutin each year for three consecutive years; and

(c) confirm that ten percent of apiary sites each year, after the three year period specified in subclause (b), have been tested for the presence of tutin; and

(d) no individual result has ever exceeded 0.1mg/kg for honey; and

(e) no individual result has ever exceeded 0.01mg/kg for comb honey.

(2) For the purposes of subclause 1(b) targeted honey samples means a representative sample of honey from an apiary or apiaries with a common foraging area—

(a) from the last harvest of each season; and

(b) harvested between 1 January and 30 June of that year.

(3) The records must be kept for four years from the date on which honey is packed for sale for human consumption or exported.

(4) This option is not available for box section comb honey.

This option provides a mechanism for beekeepers to demonstrate that there is a low risk of tutin in honey from specific areas around their apiaries. Honey from individual apiaries may be sampled or apiaries in a close geographic location may be homogenised and tested together, provided that the bees from those apiaries have a common predictable foraging area and the honey from those apiaries would normally be combined into a single batch in the course of extraction. This option is not suitable for use in areas of the country above 42 degrees south where there are high concentrations of tutu present. In those areas, honey should either be tested in accordance with option 1 or harvested in accordance with option 2.

The purpose of option 5 is to ensure that if tutin is present in honey, it is only ever present in sufficiently low levels that a negligible risk of the maximum level being breached exists. This is particularly important when it comes to comb honey production because tutin is not likely to be evenly distributed in comb honey. This is why the limit for using this option for cut comb honey production was set lower at 0.01mg/kg (Current detection limit for the most sensitive testing currently available).

Risks with this option as currently drafted include beekeepers removing untested honey from hive later in the season than the honey in the tested years. (Tutin levels may continue to build

up in late season honey.) Additionally, unusual climatic conditions may significantly affect tutin levels in untested years that did not occur during the years the honey was tested.

Some beekeepers have advised MPI that they use their 10% ongoing sampling to target samples to areas where they have previously found low levels of tutin in honey. This approach is more likely to cover the risks described above, but provides no testing of honey in other areas in the event that something changes in those areas to increase risk. (For example, a forest being felled and tutu appearing in the subsequent regrowth.)

It is difficult for legislative drafting to cover every possible eventuality and beekeepers and honey packers are responsible for safe honey production under law.

One way of helping ensure this option works to ensure any honey produced will meet the maximum levels allowed despite the limitations described above is to provide sufficient safety margin between the levels applied under this option and the maximum level.

Risk management limit for extracted honey

The previous margin between the temporary extracted honey maximum level of 2.0mg/kg and the risk management level under this option of 0.1mg/kg was a 20-fold safety margin. The reduction in maximum level to 0.7mg/kg has significantly reduced this safety margin.

It is therefore questionable whether the 0.1 mg/kg risk management limit for extracted honey in this option remains effective to ensure the new maximum level in extracted honey will be met. It is MPI's view that with the reduction in the maximum level for tutin in extracted honey, the safety margin under this option should be correspondingly increased.

Analysis of some options for addressing the change in limit are summarised in Table 1 below.

Table 1: Alternative Option 5 Risk Management Levels for Extracted Honey

Risk Management level for tutin	Safety margin from maximum level	Pros	Cons
0.1mg/kg	7x	<ul style="list-style-type: none"> • Status Quo, no further testing required by beekeepers currently relying on Option 5 	<ul style="list-style-type: none"> • Unlikely to provide sufficient protection with the new lowered maximum level.
0.01mg/kg	70x	<ul style="list-style-type: none"> • Provides highest level of protection for consumers. 	<ul style="list-style-type: none"> • Likely to require further testing by some beekeepers. • Only one of the two currently available testing laboratories can analyse down to this level
0.035mg/kg	20x	<ul style="list-style-type: none"> • Would provide more protection for consumers than status quo. • Maintains the 20x safety margin the current standard provided with the previous maximum level • Both the current testing laboratories can analyse down to this level • Supported by Bee Products Standards Council² 	<ul style="list-style-type: none"> • If some compositing of samples has been done for compliance testing against the 0.1mg/kg risk management level previously, reinterpretation of results or re-testing may need to be done depending on the nature of the compositing and detection limits of testing done.

Risk management limit for comb honey

With the increased maximum limit for comb honey of 0.7mg/kg, individual apiary results of 0.01mg/kg are highly unlikely to produce comb honey with tutin present over the maximum level of 0.7mg/kg despite the greater variability of tutin distribution in comb honey. The original comb honey temporary maximum level of 0.1mg/kg was set to account for the variability of tutin in comb honey, rather than because that level was considered unsafe. FSANZ have noted in raising the limit for comb honey to 0.7mg/kg that this was done on the basis that the risk was controlled adequately by the existing New Zealand controls and a

² www.bpsc.org.nz

lower maximum limit was therefore un-necessary. Significantly changing the current controls on comb honey production would therefore likely require a further review of the tutin comb honey maximum level.

Box section comb honey

This option has not been available for box section comb honey production. This is because box section comb honey is the entire product and it is not possible to successfully sample box section comb honey in a representative way. However it has been suggested that once an area has been identified as low risk for comb honey production through three years of testing either extracted honey or cut comb honey to a level of 0.01mg/kg that it should be safe for box section comb production thereafter, recognising that the 10% sampling required on an ongoing basis would need to be from extracted honey or cut comb, rather than box section comb.

MPI Proposal

Option 5 should be amended to reduce the risk management level for extracted honey from 0.1mg/kg down to 0.035mg/kg. The controls for comb honey under this option should remain unchanged with the exception of permitting box section comb honey production once an area has been determined to be low risk by testing extracted or comb honey to the applicable level.

8.8 REPORTING PROVISIONS

Clause 16 of the Standard requires that a person who submits samples to a laboratory for analysis must provide, or have the laboratory provide, as soon as practicable the following information to MPI;

- the name and address of the beekeeper;
- the map series sheet number identifying the location of the apiary or apiaries from which the sample came from;
- the quantity of honey the sample relates to;
- whether the sample is from an individual apiary site or multiple apiaries;
- whether the honey is comb or extracted honey;
- the batch or lot number of the honey;
- the laboratory undertaking the test; and
- the tutin test result for each sample.

The reporting requirement under the existing Standard was primarily developed to enable analysis of testing data to better define risk areas and harvest dates so that tutin controls could be more refined. However comparison of results submitted with total tests performed by the testing laboratories have shown that only around 1/3 of the tests have had their results submitted to MPI. Further, a lot of testing results are from blended bulk samples and consequently are not very informative.

There are also other ways to refine the current tutin controls. Research into factors that affect passion vine hopper distribution could for example provide an equivalent basis on which to refine high risk areas.

This provision was not intended for use as a direct management tool, although some of the under-reporting may have occurred because beekeepers saw it being used as such. The Animal Products (Harvests Statement and Tutin Verification) Notice 2010 contains a requirement for businesses operating RMPs to report results over the ML to their verifier so

appropriate supervised action to ensure proper steps are taken to ensure the ML is not exceeded in the final product.

In reviewing how the current Standard operates, there is a strong case to revoke the reporting requirements under section 16. The Standard as a whole appears to be operating effectively with the current low levels of reporting, should reporting continue to be a legal requirement? Currently it is unfairly penalising those that are complying due to the added costs associated with assembling and submitting data.

During submissions for the implementation of the 2008 Food (Tutin in Honey) Standard, eighteen submissions were received supporting MPI's predecessor having access to the apiary register under the Biosecurity Act 1993, rather than duplicating records by creating a new listing requirement. This register exists

Fortunately, approximately 90 percent of honey is put through an RMP so the bulk of risk of tutin in honey is already being monitored and further action may not be necessary. There are also systems audits and surveys which provide added protection for consumer safety. Additional controls also exist for export under the Animal Products controls Notice. Consequently, even without reporting requirements, there are alternative forms of protection available.

MPI Proposal

The reporting provisions under clause 16 in the Standard should be revoked.

9 Other changes proposed.

MPI has recently adopted new formats for its documents containing regulatory requirements. This has necessitated some changes to the layout and look of the draft revised standard from the previously published versions.

A number of new definitions have been inserted to aid clarity to the reader along with wording changes to clarify around some of the technical requirements contained within the standard.

A full copy of the proposed draft standard is attached as Appendix 1 to this consultation document.

10 Appendix 1 – Draft Food (Tutin in Honey) Standard 2015