

INFO SHEET No. PO01

This Info Sheet contains information about the treatment of the issue of GMO's and organic management. The information should be read in conjunction with the NASAA Organic Standard.

For further Information contact Certification Officer or email to certification. standards@nasaa.com.au

GMO's

The use of genetically modified organisms is not permitted in the production or processing of certified organic food or fibre.

PRODUCTION OF ORGANIC CROPS

There are a number of crops grown worldwide that already contain genes modified by human intervention, among which are canola, chicory, corn and maize, cotton, flax, melon, papaya, potato, rice, soy bean, squash, sugar beet and tomato but there have been none released in Australia. In addition, there are a number of potential inputs to food and fibre production that have been or may have been genetically modified, among which are *Agrobacterium radiobacter* (NOGALL), and *Bacillus thuringiensis* (Bt).

Beyond directly planting or using GM seeds or input products, there are other ways that GM material can be introduced into the organic production chain. Sourcing seed from sources that are not certified organic, or harvesting a crop that has been cross pollinated by pollen from GM crops, are two ways that indirect GM contamination can occur although cross pollination is unlikely in Australia at present.

Future developments may include pasture species, pineapples, rice and wheat.

It is the responsibility of each certified producer of organic food or fibre to ensure that no contamination of certified product occurs, whether by direct or indirect means. Producers should also be aware of the importance of checking their seed material, if it is not certified.

To assist growers, NASAA has devised the attached checklist to allow a check to be made of farming inputs, with the goal of ensuring that GM contamination does not occur inadvertently.

PROCESSING OF ORGANIC FOOD AND FIBRE

To avoid the inclusion of genetically modified material into organic processing streams, a number of steps need to be taken.

- (a) Only source certified organic ingredients.
- (b) Ensure that all additives and processing aids come with a GMO free declaration.
- (c) Either utilise the attached checklist or develop a HACCP based one of your own, to verify GM status of all ingredients.

In addition to the downstream effect of potentially modified crops already listed, there are several other inputs into food processing for which GM versions exist. These include a range of vitamins, citric and lactic acids, enzymes and yeasts. In fact there are more genetically modified substances available for processors than for farmers.

NASAA will require processors to maintain current GMO-free declarations for all ingredients, additives or aids that do not carry a current Organic certification.



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GMO's

Where such documentation does not exist due to the reluctance or inability of the supplier to provide it, NASAA may test for the presence of genetically modified material where relevant. In some instances certification may be suspended until verification of status can be determined. Sourcing certified organic ingredients whenever they are available is a significant advantage in avoiding extra documentation and the time and effort needed to track down original suppliers.

OTHER RESOURCES

It is possible to access a considerable range of information from the Internet, particularly if you are looking for lists.

In Australia, The *Gene Technology Act 2000*, which came into force on 21 June 2001, introduced a national scheme for the regulation of genetically modified organisms. The Act is administered by the Office of the Gene Technology Regulator, responsible for the identification and management of risks posed by, or resulting from, gene technology. The OGTR website provides a complete listing of GMOs approved by the Gene Technology Regulator and of all GM products approved by other product Regulators. For further information, visit www.ogtr.com.au.

CHECKLISTS

The attached checklists are designed to be either used directly or to be used as a proforma for operators to develop their own systems as part of an Organic Management Plan. They represent the type of analysis that NASAA Inspectors will be required to complete at each inspection event. Obviously, if it is already done, the inspector's task is made less onerous, and potential delays in assessing compliance with organic processing standards can be avoided.

The lists have been compiled to assist NASAA operators to evaluate the potential for GM inputs into their systems. The first two sections are for producers (in Australia and International) and the third section for processors everywhere. For most operators there may only be one or two potentially GM derived inputs. As the situation is changing all the time any list cannot be completely exhaustive. It is the operator's responsibility to ensure that GM inputs are not used in organic production. Please be particularly aware of seed sources. **For further information, please contact NASAA.**

Last Update 1 July, 2005



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1. FARM CROPS (or associated farm inputs) INCORPORATING KNOWN COMMERCIAL RELEASES OF GMOs LEGALLY AVAILABLE IN AUSTRALIA

SUBSTANCE	BRAND NAME	USED ON SITE?		GM FREE DOCUMENTATION?	
		YES	NO	YES	NO
Cotton seed / Meal					
Soy meal, flour					
<i>Agrobacterium radiobacter</i>	NOGALL				
<i>Bacillus thuringiensis</i>	Bt				
rBovine Growth Hormone					

2. FARM CROPS (or associated farm inputs) INCORPORATING KNOWN COMMERCIAL RELEASES OF GMOs LEGALLY AVAILABLE OUTSIDE AUSTRALIA

Countries other than Australia where known commercial releases of farm crops (or associated farm inputs) are current are: Argentina, Canada, Denmark, European Union, Japan, Mexico, Netherlands, Switzerland, Russia, UK and USA. Current farm crops so modified are canola, chicory, corn and maize, cotton, flax, melon, papaya, potato, rice, soy bean, squash, sugar beet and tomato. NASAA operators outside Australia are advised to be aware of the potential for imported products to be derived from sources or areas that permit the use of these listed crops and related organisms. In the event that commercial releases occur in countries where NASAA operates, these will be separately listed.

3. GENETICALLY MODIFIED SUBSTANCES USED IN FOOD MANUFACTURING

SUBSTANCE MAJOR INGREDIENTS	BRAND NAME	USED ON SITE?		GM FREE DOCUMENTATION?	
		YES	NO	YES	NO
Canola oil					
Cellulose					
Corn / Maize Meal					
Corn oil / corn starch / corn syrup					
Cotton seed oil and linters					
Potato / starch / flour					
Soy Beans / Meal / Flour					
Soybean oil & other derivatives					
Other ingredients from known commercial releases					
MINOR INGREDIENTS					
<u>Food Additives</u> For example:					
Citric Acid					
Lecithin					
Lactic Acid					
Xanthan Gum					

3. GENETICALLY MODIFIED SUBSTANCES USED IN FOOD MANUFACTURING cont'd

SUBSTANCE	BRAND NAME	USED ON SITE?		GM FREE DOCUMENTATION?	
		YES	NO	YES	NO
MINOR INGREDIENTS					
Flavourings For example:					
Vanillin					
Processing Aids For example:					
Yeasts / Yeast extracts					
Ferments / Ferment extracts					
Preparations from Nisin producing organisms					
Vitamins For example:					
Vitamin A – Beta-carotene					
Vitamin B2 – Riboflavin / Lactoflavin					
Vitamin B6 – Pyridoxin					
Vitamin B12 – (cyano) cabalamin					
Vitamin C – Ascorbic Acid					
Iso ascorbic acid					
Vitamin D – Calciferol					
Vitamin E – Tocopherol					
Vitamin K – Pylloquinon, menadion, menaquinon,					
Enzymes For example:					
Acetolactate-decarbocylase					
Alfa-amylase, amylase					
Catalase					
Hemicellulase					
Invertase					
Lipase					
Lysozyme					
Pectinase					
Pectineserese					
Phytase					
Protease					
Pullulanase					
Subtilisin					
Xylanase					