Module 10
Viticulture and Winemaking Standard

Incorporates:

- Viticulture – Grape Growing
- Winemaking

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The BioGro New Zealand Organic Standards Module 4.11 Viticulture and Winemaking Standard was originally issued as Version 1: 10 February 2004. That standard was produced in cooperation with Certified Organic Winemakers of New Zealand (COWNZ) and the Wine Institute of New Zealand (WINZ), with financial support from Industry New Zealand.

This document replaces the BioGro New Zealand Organic Standards Module 4.11 Viticulture and Winemaking Standard, Version 1: 10 February 2004

The reasons for change are:

- regular review required under IFOAM accreditation;
- incorporation of notified changes since the 10 February 2004 Standard was published;
- incorporation of other changes required for ongoing compliance with the IFOAM Basic
- Standards, the NZFSA OOAP, and overseas market regulations;
- organic production systems are continuously evolving.

This document may be altered at any time. It was current at the date in the header of each page of the document. It is recommended that anyone intending to use this document contact BioGro or check the BioGro website www.biogro.co.nz to confirm that this is the current version.

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1 Scope and purpose

This BioGro Standard contains the production requirements and audit criteria for the certification and licensing by BioGro of producers of grapes and wine to use the BioGro trademarks and logos.

This BioGro Standard specifies the production requirements and audit criteria that must be met by:

- producers of organic grapes certified by BioGro; and
- producers of organic grapes licensed by BioGro to use the BioGro trademarks and logos; and
- producers of organic wine certified by BioGro; and
- producers of organic wine licensed by BioGro to use the BioGro trademarks and logos.

All organic grapes and wine bearing the BioGro trademarks/logos are to be produced in compliance with this Standard.

Information on BioGro, applying for certification, and the use of the BioGro trademarks/logos can be obtained from *Module 1 Introduction* and *Module 3 Certification System*. Information on the BioGro requirements for distribution of organic products can be obtained from *Module 14 Distribution Standard*.

The audit checklists (available on request from BioGro) may be used for self-audits in preparation for audits by BioGro.

2 References

All relevant regulations and industry requirements must be complied with.

3 Definitions

The BioGro definitions of terms can be found in the BioGro Standards *Module 2 Glossary of Terms*.

4 Production Specifications for Viticulture

This section specifies the guiding principles, recommendations and requirements of the BioGro Standard for certified organic viticulture.

4.1 Soil and Fertility

4.1.1 Guiding principles

Organic viticulture systems aim to sustain and enhance the fertility and life-supporting ability of the soil, including its biological, physical and chemical components. Emphasis is placed on the importance of soil organic matter, and soil flora and fauna, and on achieving cycles and flows of nutrients and organic matter which will conserve and enhance soil fertility and humus.

4.1.2 Recommendations

a. Soil organic matter and soil structure are of paramount importance, and are maintained and enhanced using any or all of the following:
   i. composts and mulches;
   ii. living mulches (especially leguminous);
   iii. green manure crops;
   iv. herbal leys;
   v. grazing by livestock; and
   vi. sympathetic sward management techniques.

b. For intensive grape production systems the use of compost is recommended but must be managed carefully to ensure that storage and use does not lead to pollution of soil or water by leaching.

c. Grazing and ranging by livestock such as cattle, sheep, pigs, and poultry should be managed in ways that enhance soil structure and fertility, and must comply with the requirements of *Module 5 Livestock Production*.

d. Mineral, foliar, and liquid fertilisers are regarded as supplementary to, not a substitute for, nutrients cycled via organic matter return. Note that mineral fertilisers approved by BioGro generally require assimilation by soil or compost organisms before the nutrients can be taken up by plants.

4.1.3 Requirements of the Standards

a. **Soil testing**
   Regular soil testing, as specified below, is required to:

   i. monitor fertility levels to ensure that the overall fertility of vineyard soils is maintained and enhanced; and/or
   ii. determine whether mineral supplementation is necessary and appropriate; and/or
   iii. determine the need for restricted fertilisers.

   Herbage/foliar testing may also be used to evaluate the need for nutrients such as trace minerals, but is not an alternative to soil tests.

   Soil test(s) from at least one productive area on the vineyard are required annually for C0, C1, and C2 properties. Annual tests thereafter are not obligatory, but may be required at the auditor's discretion if there are concerns regarding fertility levels.

Soil and herbage/foliar testing must be carried out under an ISO 17025 accredited laboratory test, where available. If an ISO 17025 accredited laboratory test is not available for that type of test, then BioGro written approval for the test to be carried out is required for acceptance under these standards.

b. Organic matter
Soil tests must always include tests for organic matter levels.

c. Soil health
After the commencement of organic management, measures of biological fertility and soil structure must show either good or generally improving levels of these soil parameters.

d. Composts and Vermicasts
Composts and vermicasts may be made on the orchard or purchased from BioGro certified/approved sources. Composts and vermicasts made on the orchard must be made from ingredients sourced from certified properties and/or ingredients selected in compliance with the *BioGro Compost Guide*. Compost made on the orchard must have heated, been aerated and mixed, matured sufficiently, and have been produced in compliance with the requirements of the *BioGro Compost Guide*. Vermicasts made from low risk ingredients approved by BioGro do not have to go through a heat process.

Management of composts and vermicasts must comply at all times with the requirements of the local body's Regional Plan.

e. Leaching
Leaching losses from stored and applied composts must be actively minimised.

f. Nitrogen rates
Application rates of compost along with other fertiliser additions must not lead to excessive levels of available nitrogen. Nitrogen applied through the use of approved composts and foliar fertilisers should be no more than that required for maintenance of nutrient levels, and as a guide should not exceed 170 kg nitrogen per hectare per year.

g. Raw manures
With the exception of a certified property's own dairy or pig effluent from the certified area and certified livestock, raw animal manures must not be applied directly to soils. Raw animal manures (including those from the certified property if collected) must be hot composted before use, refer the *BioGro Compost Guide*.

h. Sewage by-products
Sewage sludge or bio-solids are prohibited and must not be applied directly, or used as an ingredient in composts.

i. Industrial by-products
Food and textile industry by-products of biodegradable material, i.e. of microbial, plant or animal origin, free of synthetic additives, may be used provided they are hot composted, refer the *BioGro Compost Guide*.

j. Mulches
Where available, mulch materials must be sourced from certified farms. If certified mulches are not available, mulches from conventional sources may be used subject to the following:

i. they must not have had any prohibited substances applied directly to them; and
ii. documentation must be obtained from the producer to confirm this; and
iii. they must have BioGro approval prior to purchase; and
iv. residue tests may be required.

k. Management of green manure crops and sward

i. Green manure crops and the sward must be managed to maintain and optimise the overall fertility of the vineyard soils as evidenced by soil nutrient tests, soil organic matter tests, and evaluation of biological fertility.

ii. In vineyard systems, green manures and sward mowings should not be removed from the vineyard unless they are used to make compost which is returned to the vineyard.

iii. Damage to soil structure and soil compaction during vineyard work must be avoided by using appropriate equipment, machinery and timing.

l. Biological activators

The following biological activators are permitted providing the product formulations are approved by BioGro:

i. Bio-dynamic preparations 500 – 507;

ii. microbial and biological activators; and

iii. plant-based preparations.

m. Permitted fertilisers

Refer *Appendix B*.

n. Restricted fertilisers

Refer *Appendix B*.

o. Fertiliser supply

Permitted and restricted fertilisers should be obtained from a BioGro certified/approved supplier where available locally. If not, then every effort must be made and documented to ensure that any brought-in materials comply with all requirements of the BioGro Standards. If fertilisers are not obtained from a BioGro certified/approved supplier then particular attention must be paid to potential contamination at source or during storage and transport by prohibited fertilisers, heavy metals, pesticides, animal health remedies, and other prohibited materials.

p. Liquid fertilisers including vermicast liquids and compost teas

Liquid fertilisers may be made on the farm or BioGro certified/approved products may be used. If liquid fertilisers are made on the farm then evidence must be provided that all ingredients comply with the requirements of this Standard and are not contaminated with prohibited materials.

q. Sewage

Manures containing human excrement, i.e. faeces and urine, are prohibited, and may not be brought onto the property or used as a compost ingredient.

r. Miscellaneous fertilisers

All other materials for fertilisation and soil conditioning must be certified/approved by BioGro prior to use, refer *Module 22 Procedure for Evaluation of Inputs*.

s. Thermal sterilisation

Thermal sterilisation of soils must have BioGro's written approval prior to use.

t. Burning Vegetation

Land preparation by burning vegetation must be restricted to the minimum.

u. Salinization

Relevant measures must be taken to prevent or remedy soil and water salinization.

4.2 Water supply and irrigation

4.2.1 Guiding principles

Water is regarded as a scarce resource. Careful management of irrigation is required to enhance the quality of both the soil and crops, whilst minimising any potential adverse effects on the environment.

4.2.2 Recommendations

a. Water sources should be chosen to ensure adequate supplies of uncontaminated water, and where necessary water purity tests should be carried out.
b. Irrigation systems should be chosen which:
   i. provide sufficient water to satisfy soil and crop needs only;
   ii. avoid over-watering, leaching, or water-logging; and
   iii. ensure the taking of this water does not cause adverse effects on any associated surface or groundwater ecosystem.

4.2.3 Requirements of the Standards

a. Water source purity
Where there is potential contamination, e.g. the catchment area includes conventional horticulture, then proof must be provided annually that irrigation water is not contaminated with any restricted or prohibited materials. Refer to *Appendix A Residue Levels in Certified Products, Water, Soil and Composts.*

b. Catchment
Information must be supplied to BioGro describing the catchment area and detailing any likely contamination of water sources with prohibited materials.

c. Optimal watering
Irrigation systems must be efficient and effective in supplying vineyard needs. Soil and vineyards must not exhibit signs of excessive irrigation, namely over-watering, leaching or waterlogging.

d. Monitoring water
Optimum water use strategies must be demonstrated and supported by an appropriate method of monitoring.

e. Regional plan and resource consents
Water supplies and usage must meet the requirements of the Regional Plan, and where required have a current resource consent.

f. Temporary irrigation systems
Temporary irrigation systems, such as plastic driplines, must be removed after use.

4.3 Vine establishment and management

4.3.1 Guiding principles

Optimum yields of high quality grapes will be produced with minimal external intervention where grape varieties are grown that are best suited to the region, the property, and organic production, and also where positive organic management systems are in place.

4.3.2 Recommendations

a. Select grape varieties which best suit the region and the organic vineyard location and therefore minimise the likelihood of weed, pest, and disease problems.
b. Use high health plants to ensure that varieties are suitable and that selection for resistance and tolerance to disease has been carried out as per industry best practices.
c. Reduce the likelihood of pest and disease problems by using pruning and training systems which enhance plant health.

4.3.3 Requirements of the Standards

a. Vegetative propagative materials

High health materials must be used where available.

i. If certified organic vegetative propagating material is unavailable, vegetative reproductive material may be taken from a mother plant in the case of vegetative propagating material which has been produced under certified conversion to organic production for at least one generation.
ii. If neither full nor conversion vegetative propagative materials is available then conventional sources may be used provided they are not treated with any prohibited materials and the supplier has provided a written guarantee to confirm this.
iii. Genetically engineered varieties are expressly prohibited.

b. Grafting wood, grafting waxes, and nursery plants

The following may be used with no loss of certification on the vine, land, or crop:

- Grafting wood which is sourced from BioGro certified vines;
- Grafting waxes (based on beeswax etc) which are BioGro certified;
- BioGro certified nursery plants.

Use of non-certified grafting wood, non-certified grafting waxes (such as those based on petroleum jelly), and non-certified nursery plants can be considered by BioGro on a case by case basis, under the following conditions:

i. Application for approval must be made to BioGro in writing listing:
   - The identification of the block(s) to be grafted or planted, the current variety(s), and the number of vines or area to be grafted or planted;
   - The variety(s) to be grafted or planted and the source of the grafting wood or nursery plants;
   - Proof that grafting wood from BioGro certified properties or BioGro certified nursery plants are not available in satisfactory quality and quantity.

   Note that BioGro may be required to obtain approval from NZFSA or another export authority to allow non-certified grafting wood or nursery plants;

   - If grafting, then any grafting waxes and other treatments which are to be used.
ii. The grafted or planted vines, the land they are on, and any crop from those vines, all lose certification for at least one year.

   Some markets may specify loss of certification for a longer period of time.

c. Thermal sterilisation
Thermal sterilisation of potting mixes requires prior written approval from BioGro.

d. Pollination
Beehives sited on the certified property, or brought onto the certified property for pollination of crops or other purposes, must not normally contain prohibited treatments for pests and diseases, refer *Module 7 Honey and Bee Products Production Standard* and *Appendix B: Permitted and Restricted Materials and Practices* for allowed treatments. If the allowed treatments will not give adequate control of varroa mite then hives brought onto the certified property specifically for pollination of a crop(s) and for a limited period of time to cover the flowering period only, may contain prohibited treatments for varroa mite.

e. Artificial pollination
Artificial pollination is a restricted practice and requires prior written approval from BioGro, refer form *Application for use of Restricted Inputs*. BioGro certified/approved pollen must be used.

f. Treated timber
Use of timber treated with arsenate and/or other prohibited materials is a restricted practice and requires BioGro written approval. All alternatives must be evaluated first.

Note that properties producing certified products to be exported to US (including products which will be ingredients of processed products to be exported to US) must comply with the USDA National Organic Program (NOP) requirements for treated timber.

4.4 Sward

4.4.1 Guiding principles

Organic vineyard production systems should be designed so that the sward protects and enhances the soil, and so that there is minimal need for intervention to control weeds while ensuring that weed competition does not significantly reduce yields or crop quality.

Generally a mixed sward including flowering plants is a vital part of the vineyard diversity.

4.4.2 Recommendations

a. Establish and maintain a sward which contains a wide variety of species, especially leguminous plants and umbelliferous plants.
b. Weed control depends on timely management techniques, including:
   i. mowing;
   ii. allelopathic (weed suppressing) green manure crops;
   iii. the use of mechanical, hand or thermal methods;
   iv. mulches;
   v. living mulches; and
   vi competition from the grape vines and/or undersown species.
c. Minimise the use of machinery for sward management to reduce damage to soil structure and soil compaction.

4.4.3 Requirements of the Standards

a. **Sward density**
The sward must be diverse and include flowering plants that attract beneficial insects. They must be managed under an appropriate mowing regime to encourage sustained flowering.

b. **Seeds, seedlings, and vegetative propagative materials**
For establishment of sward, certified organic seeds, seedlings or vegetative propagative materials must be used where available.

i. If certified organic seed or vegetative propagating material is unavailable, then seed and vegetative reproductive material may be taken from a mother plant (in the case of seeds) and a parent plant (in the case of vegetative propagating material) which have been produced under certified conversion to organic production for at least one generation, or in the case of perennial crops, for two growing seasons.

ii. If neither full or conversion seeds, seedlings or vegetative propagative materials are available then conventional sources may be used provided they are not treated with any prohibited materials and the supplier has provided a written guarantee to confirm this.

iii. Seed treated with prohibited materials may not be used unless prior written approval has been received from BioGro. If a certified grower is unable to source untreated seed for the required varieties and wishes to use treated seed then they must apply in writing to BioGro for prior written approval. Written documentation must be supplied for:

- evidence of the unsuitability of other varieties;
- evidence of the unavailability of untreated seed; and
- the cleaning procedure which will be used for the treated seed.

Note that seeds treated with prohibited materials can not be used under any circumstances for some export crops.

iv. Genetically engineered varieties are expressly prohibited.

c. **Weed management plan**
If weed problems are prevalent in the vineyard, then a documented plan must be in place to remedy these problems.

d. **Mechanical and thermal weed control**
Mechanical and thermal weed control techniques, such as flame and steam weeding, are permitted.

e. **Biological control**
The introduction of biological controls for weed control is permitted.

f. **Plastic and reflective mulches**
Plastic and reflective mulches are permitted, but must be retrieved after use, and must not be burnt. Only plastic products based on polyethylene, polypropylene and polycarbonates are allowed.

g. **Mulches**
Mulches from conventional sources must be approved by BioGro prior to use, refer section 4.1.3 j. of this Module.

h. **Herbicides**
Chemical/synthetic herbicides are expressly prohibited.

i. **Solarisation (using the sun's energy to burn)**
Solarisation to control difficult perennial weeds is a restricted practice and requires prior written approval from BioGro.

j. **Grazing by livestock**
Refer *Module 5 Livestock* for the requirements for management of livestock on certified properties.

4.5 Pest and disease management

4.5.1 Guiding principles

Internal stability of an organic system will be achieved by fostering the beneficial processes and interactions which occur in natural ecosystems, thereby minimising reliance on external control measures.

Organic viticulture systems should be designed to minimise the need for intervention to control pests and diseases while ensuring that pest and disease damage does not significantly reduce yields or crop quality.

Inputs used for pest and disease management should work in conjunction with natural cycles rather than dominating those cycles.

Deleterious environmental effects of particular management practices must be minimised, including any that may reduce natural diversity to the detriment of plant and wildlife habitats.

4.5.2 Recommendations

a. Minimise pest and disease problems by creating a healthy soil, encouraging beneficial fauna, and using good husbandry practices.
b. To reduce the likelihood of disease problems choose varieties which best suit the region and the vineyard.
c. To reduce the likelihood of disease problems, use pruning and training systems which allow light and air to penetrate.
d. Protect and encourage the natural enemies of pests through provision of favourable habitats, i.e. sward, hedges and shelterbelts, rough grass areas, nesting sites etc.
e. Pest control in organic production depends on building an environment based on a natural balance through establishing floral and faunal diversity.
f. Where intervention is required the use of introduced biological controls should be used in preference to permitted or restricted sprays.

4.5.3 Requirements of the Standards

a. Pest management plan
The documented pest management plan for the vineyard must be based on biological control through encouragement of a natural balance and where required the introduction of predators and parasites.

b. Preventative management
Crop and varietal selection, vineyard pruning and training and crop management must aim to reduce the likelihood of pest and disease problems.

c. Habitats
Suitable habitats for the natural enemies of pests must be present in the vineyard.

d. Mechanical controls
Mechanical controls, e.g. traps, barriers, sound scares, lures, etc., are permitted.

e. Permitted materials
Refer *Appendix B*.

f. Restricted materials
Refer *Appendix B*.

g. Thermal sterilisation
Thermal sterilisation of potting mixes and soils require prior written approval from BioGro.

h Prohibited materials
All synthetic pesticides not listed as allowed in these Standards are prohibited.

4.6 Harvesting, storage, and transport

4.6.1 Guiding principles

Grapes should be harvested in ways that protect the vineyard soils.

All stages of harvesting, storage and any transportation, must be managed to ensure maintenance of the crop's organic integrity.

4.6.2 Recommendations

a. Harvest in a way which minimises damage to soil structure.
b. The organisation of harvesting and post harvest management must protect the grapes' integrity.
c. Manage the storage and transport of grapes to ensure no contamination by uncertified produce and/or restricted or prohibited materials.

4.6.3 Requirements of the Standards

a. Harvesting
Containers, gloves, harvesting equipment, and machinery used for harvesting certified grapes should be dedicated to organic use only. If machinery is also used for harvesting conventional products then it must be cleaned according to a BioGro-approved procedure prior to entering the certified vineyard. The cleaning must ensure that:

i. certified grapes can not be contaminated, and
ii. plant material and soil from a conventional property are not brought onto the certified vineyard.

b. Staff awareness
All harvesting staff must be aware of the need to maintain the integrity of certified grapes and following agreed procedures to ensure this.

c. Storage
Certified grapes in storage must be protected from contact with all prohibited and restricted materials. Where uncertified grapes or grapes of different certification status is also stored there then:

i. containers must be clearly marked as organic with the certification status of the grapes; and
ii. segregation from uncertified grapes or grapes of a different certification status must be guaranteed; and
iii. staff must be aware of the organic status and the certification status of the grapes and following agreed procedures to ensure the above.

d. Permitted pest control materials
The following pest control methods are permitted for packing and storage facilities:

i. UV Traps.

e. Restricted pest control materials
The use of pyrethrum is restricted and must have prior written approval by BioGro. It must not be applied directly to the harvested grapes. Pyrethrum products used can not contain the synergist piperonyl butoxide.

h. Rodent control

Prior approval must be obtained from BioGro for use of chemical/synthetic materials. This must be by the use of bait stations, and the bait stations must be outside food handling areas.

i. Transportation

During any transport of grapes away from the certified vineyard, their integrity must be protected:

i. Containers must be sealed, covered, or if open then transported in enclosed or curtain-sider vehicles.
ii. Containers must be clearly marked as organic, and labelled with the grower's name and BioGro number, and the name and organic status of the grapes.
iii. Segregation from uncertified produce or produce of a lesser certification status must be guaranteed as in j below.
iv. Drivers and staff involved in loading and unloading, must be aware of the importance of the organic integrity of the grapes.

j. Parallel production

Where parallel harvesting, storage and transport occurs then special attention must be directed to:

i. The identification of certified grapes to distinguish them from produce of a lesser certification status.
ii. The separation distances between certified and uncertified produce.
iii. The documentation of the separation system and the keeping of records to enable traceability.
iv. Staff awareness of the need to maintain the integrity of the certified grapes.

In particular, the following must be observed:

v. Containers of certified grapes must be clearly marked as organic and with the certification status of the grapes; and
vi. Segregation from uncertified produce or produce of a different certification status must be guaranteed; and
vii. Staff must be aware of the certification status of the grapes.

5 Grape Processing and Winemaking

5.1 Grape processing

This section specifies the requirements of the BioGro Standard for certified organic processing of grapes – crushing, pressing, and juicing.

In all cases the requirements of these Standards are in addition to any New Zealand food, food safety, health, and labelling legislation. Certified producers must be in compliance with all relevant New Zealand national and local body regulations, and all relevant regulations for any export market(s) their products will be exported to.

5.1.1 Guiding principles

Best practices in the processing facility will aim to maintain the quality and integrity of the grapes.

5.1.2 Recommendations

a. Use only certified or approved products for processing.
b. Food safety and hygiene is paramount. Ideally clean with hot water and steam rather than chemical cleaners.
c. Return grape waste to the vineyard to aid maintenance of the soil nutrient balance.
d. Use thermal settling practices rather than enzyme-treated settling practices.
e. Initiate fermentation by adding yeast and bacteria.

5.2 Management of processing facilities

5.2.1 Certification of processing facilities

The certified winemaker, who may or may not be the grower of the grapes, is responsible for the "chain of custody" throughout all stages of processing. Processing of grapes and grape products must be in facilities that have current BioGro certification, or where the operator of that facility is a sublicensee of the certified processor. Where the operator of that facility is a sublicensee of the certified processor, then they must comply in full with the requirements for certification of non-primary producers, refer *Module 3 Certification System* Section 6. Where there is one or more sublicensees, then the certified processor is responsible for the requirements of the certification process and the associated audit and certification fees.

5.2.2 Parallel Processing

Where a facility processes both certified and non-certified products then that facility must have:

a. adequate identification and separation systems in place which ensure that certified products (including ingredients) can not be commingled with uncertified products or products of different certification status;
b. adequate cleaning, rinsing, pest management, and storage systems which ensure that certified products can not be contaminated in any way.

5.2.3 Processing methods

Processing methods used should conserve the composition of the ingredients so that the nutritional value of the ingredients and the final product are not unduly degraded for the sake of the convenience of the processing methods. The goal is to minimise processing or degradation of the raw materials/ ingredients in the production of the final product.

The following types of processes are approved subject to approval from BioGro for the materials used:

a. mechanical and physical;
b. biological;
c. extraction: note that extraction can only take place with water, ethanol, plant and animal oils, vinegar, carbon dioxide, and nitrogen. These must be of a quality appropriate for their purpose;
d. precipitation; and
e. filtration

> Note that filtration substances must not be made of asbestos nor may they be permeated with substances that may negatively affect the product.

Filtration techniques that chemically react with or modify organic food at the molecular level are restricted and require written approval from BioGro.

The following types of processes are expressly prohibited:

a. genetic modification and
b. irradiation.

5.2.4 Food safety requirements

In all cases, the requirements of these Standards are additional to any national food and food safety (hygiene) legislation. Certified processors and winemakers must be in compliance with all relevant national and local body regulations.

Processors are responsible for ensuring that their processing systems are in compliance with all applicable regulatory requirements and accepted good management practices, and that they have a food safety programme in place where required by regulatory bodies.

Processors must also comply with the requirements of this Module in addition to all regulatory requirements in order to gain BioGro certification for their products.

Disclaimer: The requirements of this Module are not designed to specify any particular means or method of production, and accordingly BioGro accepts no liability from persons following these requirements.

5.2.5 Cleaning

All equipment, contact surfaces, and processing premises must be cleaned under BioGro-approved procedures using only BioGro approved cleaners prior to processing of organic grapes and grape products.

5.2.6 Pest control

Pest control must be achieved through good processing practices.

a. **Recommended treatments**
   Recommended treatments include:
   i. light, including UV-light traps;
   ii. physical barriers;
   iii. sound; and
   iv. ultrasound.

b. Permitted treatments

Permitted treatments include:

i. controlled atmosphere;
ii. diatomaceous earth; and
iii. traps, including pheromone traps; and
iv. temperature control; and
v. BioGro certified materials such as baits.

c. Restricted treatments

Restricted treatments require prior written approval from BioGro. Restricted treatments include:

i. Fumigation of processing plants, and stores with restricted materials. Prior written approval must be obtained from BioGro if fumigation of the plant or store is being considered, either as part of the annual management plan, or due to a particular problem. BioGro will stipulate a withholding period dependent on the fumigation used, during which no certified products may be processed or stored.
ii. Use of bait stations containing chemical/synthetic materials. Bait stations must be located outside product handling areas.

d. Prohibited treatments

All other pest control treatments are prohibited unless approved in writing by BioGro. In particular:

i. irradiation is prohibited
ii. fumigation with ethylene oxide, methyl bromide, or aluminium phosphide is prohibited.
iii. the direct use or application of a prohibited method or material renders that product no longer certified. All necessary precautions must be taken to prevent contamination, including the removal of certified product from the facility, and measures to decontaminate the equipment and facilities. Application of prohibited substances to equipment and facilities must not contaminate certified product handled and processed therein.

e. Noncompliant Products

The certified producer must have a product recall procedure which includes covering the situation where a prohibited material(s) or practice(s) is used in a certified facility. The procedure must include the actions to be taken including:

i. Removal of certified status and any labelling indicating certification from the affected product(s);
ii. Removal of certified ingredients and product(s) from the facility;
iii. Measures to be taken to decontaminate the equipment and/or facilities;
iv. Timelines, and status of the facility, before certified ingredients and product(s) can be returned to the facility and the facility used again for certified handling and processing.

5.2.7 Environmental impact

Processing must minimise environmental impact with respect to energy use, waste products and pollution. For further details refer to the section of the WINZ Code of Practice on waste.

5.3 Approval of ingredients, additives, & processing aids

Applications for certification of processing and winemaking must be made to BioGro allowing sufficient time for the auditor to make contact and carry out the initial audit prior to any processing. The application (Application Pack available from the BioGro office) must contain full details and quantities/percentages of all ingredients, additives and processing aids to be used, processing methods to be employed right through to the finished product stage, and the winemaking plan.

Additives and processing aids must not be genetically engineered or be the result of genetic engineering.

Following certification of the processing and winemaking process, applications for certification of a finished wine must contain all winemaking notes and records for that wine.

5.3.1 Weight definitions

All references made to percentage ingredients must be based on percentages by weight. Salt and water are not included in the percentage calculation.

5.3.2 Water

Water used must be potable. Evidence of water potability may be required by BioGro.

5.3.3 Certification of ingredients

100 percent of the ingredients must be BioGro certified organic where available in sufficient quantity and quality.

Where some of the ingredients are not available as BioGro-certified, then BioGro can consider approving some ingredients that are certified by another certifier, or are certified conversion, or are uncertified, subject to sections 5.3.4 – 5.3.6 below. To apply for this consideration, winemakers must provide BioGro with documentation to confirm that BioGro-certified ingredients are unavailable, and provide documentation in support of the relevant requirements of sections 5.3.4 – 5.3.6 below.

As BioGro approval may not be given, it is essential that processors do not purchase such ingredients in the expectation that they will be approved, prior to receiving written approval from BioGro for their use.

As BioGro-certified ingredients become available they must be used instead.

5.3.4 BioGro certified products

BioGro certified products must contain a minimum of 95 percent BioGro certified ingredients or recertified ingredients, refer section 5.3.5 below. The remaining 5 percent may, in cases where BioGro certified or recertified ingredients are not available, include certified conversion ingredients, or, in cases where certified conversion ingredients are not available, uncertified ingredients that have been approved, in writing, by BioGro prior to use. This includes additives, processing aids, and ingredients of non-agricultural origin, refer 5.3.9, 5.3.10 and *Appendix D*. Approval to use such conversion or uncertified ingredients in the 5 percent allowance must be sought for each product, refer 5.3.6 below.

5.3.5 Recertification of ingredients certified by other certifiers

Prior to sourcing non-BioGro certified ingredients, winemakers must contact the BioGro office for information on the evaluation procedure for recertification. As BioGro approval may not be given, it is essential that processors do not purchase ingredients not certified by BioGro in the expectation that they will be approved, prior to receiving written approval from BioGro for their use.

If a particular ingredient is not available as BioGro certified then that ingredient certified by another IFOAM accredited certifier may be able to be used, subject to prior written approval by BioGro[1]. Any evaluation required by BioGro to recertify that ingredient will be at the certified processor's cost.

If an ingredient certified by another IFOAM accredited certifier is not available, then that ingredient certified by a non-IFOAM accredited certifier may be able to be used, subject to a recertification evaluation by BioGro. This evaluation is required to confirm that the production of that ingredient complies with the requirements of the BioGro Standards. This evaluation will be at the certified processor's cost.

As BioGro certified ingredients become available they must be used instead.

5.3.6 Use of certified conversion or uncertified ingredients

Except as specified under sections 5.3.3 – 5.3.5 above, 100 percent of the ingredients must be certified organic.

Where certified ingredients are not available, then written approval to use conversion or uncertified ingredients within the 5 percent allowance must be obtained from BioGro. Winemakers must provide BioGro with documentation to confirm that certified ingredients are unavailable and documentation proving that any uncertified ingredients for which approval is sought do not contain any contaminants, including genetically modified organisms or materials. Specification sheets and manufacturer declarations for these ingredients must be supplied to BioGro to enable assessment of those ingredients, and residue testing for contaminants may be required.

As BioGro approval may not be given, it is essential that processors do not purchase conversion or uncertified ingredients in the expectation that they will be approved, prior to receiving written approval from BioGro for their use.

As certified ingredients become available they must be used instead and any unused conversion or uncertified ingredients otherwise disposed of.

Where the use of an uncertified ingredient has been approved by BioGro then the processor must continue to try to source that ingredient as certified, and to report on this to BioGro as part of their annual application for renewal of certification. Continuing use of an uncertified ingredient will only be approved where the processor supplies, at least annually, adequate evidence that that ingredient is still not available as certified in sufficient quantity and quality.

5.3.7 Mixtures of a certified and uncertified ingredient

Within a certified product, there must not be any one particular ingredient in both certified and uncertified form.

5.3.8 In-conversion BioGro products

BioGro conversion products must contain only one ingredient of agricultural origin, and that ingredient must have a status of at least BioGro conversion, and must constitute at least 95 percent of the product. The remaining 5 percent may, in cases where BioGro certified ingredients are not available, contain non-BioGro certified or conventional ingredients that have been approved in writing by BioGro prior to use. This includes additives, processing aids, and ingredients of non-agricultural origin, refer 5.3.9, 5.3.10 and *Appendix D*.

1 While there is a multilateral agreement on certification transference amongst IFOAM accredited certifiers, there are some exceptions. Contact the BioGro office for further information.

5.3.9 Additives and processing aids

Additives and processing aids (refer 5.3.10 and *Appendix D* of this Module) can only be considered for use in order to:

a. maintain the nutritional value of a product; and/or
b. enhance the keeping quality or stability of the product; and/or
c. provide the product with an acceptable composition, consistency and appearance provided that, in doing so, it does not deceive the consumer concerning the nature, substance and quality of the product.

and subject to the provision that:

d. there is no possibility to produce a similar product without the use of the additive or processing aid; and
e. it is not used solely to alter the speed of processing or to recreate or improve flavours, colours or nutritional value lost during processing; and
f. it is not included in amounts greater than the minimum required to achieve the function for which it is permitted; and
g. it contains no other substance not permitted in these Standards, and
h the total amount of additives, processing aids, and conversion and non certified ingredients is less than 5 percent of the recipe; and
i. it is not a GMO.

Fortification with vitamins and minerals is not normally allowed.

Irradiation is not permitted as a processing aid.

Specification sheets and manufacturer declarations are required so that BioGro can assess that any additives and processing aids to be used are not genetically modified and/or are not the product of genetic modification.

5.3.10 Procedure for the consideration of use of additives and processing aids in certified products

a. Introduction

Additives and processing aids considered for use can only be those listed in *Appendix D*. They must be evaluated and approved by BioGro before being used. Once approved, these products will be subject to periodic review in light of alternative products that may have become available in the interim.

The following aspects and criteria provide a rationale for approving additives and processing aids listed in *Appendix D* for certified products.

Irradiation is specifically prohibited as a processing aid or for other uses.

b. Necessity

Additives and processing aids are only allowed in certified products if:

i. they are essential to the production;
ii. the authenticity of the product is respected; and
iii. the product cannot be produced or preserved without them.

c. Criteria for the approval of additives and processing aids

i. There are no other acceptable technologies available to process or preserve the certified product.
ii. The use of those additives or processing aids assists in minimising physical or mechanical damage to the foodstuff which might result from the use of other technologies.
iii. The hygiene of the product cannot be guaranteed to be as effective by other methods, such as a reduction in distribution time or improvement of storage facilities.
iv. There are no natural materials of approved quality and quantity, or other allowed processes that can replace the use of those additives or processing aids.

v. The additives or processing aids do not compromise the authenticity of the product.
vi. The additives or processing aids do not confuse the customer by giving the impression that the final product is of higher quality than is justified by the quality of the raw material. This refers primarily, but not exclusively, to colouring and flavouring agents.
vii. Additives and processing aids do not detract from the overall quality of the product.

d. Step by step procedure for consideration of the use of additives and processing aids

i. Instead of using additives or processing aids, the preferred choice is:
- certified ingredients which are used as a whole product or are processed in accordance with the BioGro Standards, e.g. flour used as a thickening agent or vegetable oil as a releasing agent; and
- foods or materials of non-agricultural origin which are produced only by mechanical or simple physical procedures, e.g. salt.

ii. The second choice is:
- isolated food substances produced physically or by enzymes, e.g. starch, tartrates, pectin; and
- purified products of materials of non-agricultural origin and micro-organisms, e.g. ascorbic acid, enzymes and micro-organism preparations such as starter cultures.

iii. In certified products the following categories of additives and processing aids are not permitted:
- "nature identical" substances;
- synthetic substances primarily judged as being unnatural or as a "new construction" of food compounds, such as acetylated cross-linked starches;
- additives or processing aids produced by means of genetic engineering / modification; and
- carriers and preservatives used in the preparation of additives and processing aids.

5.4 Winemaking

5.4.1 Principles

Good winemaking practices are followed within the guidelines of this standard.

5.4.2 Recommendations

The use of additives and processing aids is determined by Section 5.3.9 of this module.

5.4.3 Permitted processes

The following processes are permitted:

a. centrifugation;
b. culturing with cultured or natural yeasts. No products containing genetically engineered or modified materials are allowed, and documentation must be supplied to support this; and
c. natural aging.

5.4.4 Permitted processes and additives

The following processes and additives are permitted:

Note: may not be allowed for some markets

a. clarification assisted by using fresh egg whites, pure casein, food quality natural gelatine, kaolin and calcium carbonate, and certified organic milk;
b. chaptalisation with 100 percent pure BioGro-approved sugar;
c. the addition of unfermented certified grape juice;
d. oak infusion systems;
e. the use of yeast hulls; and
f. the addition of tartaric or L-Malic acid.

5.4.5 Restricted processes and additives

The use of the following processes and additives is restricted and requires annual written approval from BioGro:

a. the addition of ascorbic acid
b. sulphur dioxide (E220), either as gas or metabisulphite, may only be used if the final concentration of sulphur dioxide, i.e. at the time of release of the wine on the market, is less than those indicated below:

Final sugar (g/litre)	Total sulphur dioxide (mg/litre)
Less than 5 (dry)	150
More than 5 but less than 30 (medium)	200
More than 30 (sweet)	250

Note that some markets have specific limitations on use of sulphur dioxide in organic winemaking and wine made from organic grapes. These limitations affect the way such wines are labelled.

c. Copper sulphate: Certified wines must not have residual copper exceeding 10 percent of the levels stipulated by the *Australia New Zealand Food Standards Code*.

Note that some market have specific limitations on use of copper sulphate in organic winemaking and wine made from organic grapes. These limitations affect the way such wines are labelled.

d. Diammonium phosphate (DAP) for winemaking only.

If the wine is destined for markets which regulate the use of the label "organic" (currently Europe and USA for wine) and don't allow the use of DAP, then DAP can not be used in the making of that wine.

5.4.6 Sparging/flushing methods

The following processes are permitted:

a. Use of gas flushing using inert gases, carbon dioxide, nitrogen, or approved inert gases, e.g. argon.

5.5 Bottling, corking/capping, and packaging

5.5.1 Introduction

Wine must be bottled in, corked/capped with, and packaged in materials suitable for the purpose, while also chosen with the aim of minimizing environmental impact.

It is not possible to specify the ideal as options differ and are subject to some change, but guidelines are given below.

Licensees must obtain written approval from BioGro for all materials used.

5.5.2 Neutrality

The packaging, including any reused packaging or storage containers, must not contain any substance capable of contaminating the product during its maximum storage and shelf life.

Packaging materials, storage containers, or bins in contact with certified product must not contain any synthetic pesticides (including fungicides), preservatives, or fumigants.

5.5.3 Energy efficiency

The energy content of the materials used must be considered. This criterion is best met if the materials can be reused as many times as possible, or recycled. However it is acknowledged that there may be limited options available. The factors to consider are:

a. minimisation of the total quantity of materials used;
b. the use of renewable/recyclable materials in preference to non-renewable/non-recyclable materials; and
c. easy compaction of materials to reduce space in trucks and landfills.

5.5.4 Bottling

All bottling facilities and equipment, including contract bottling facilities, must be cleaned in accordance with BioGro-approved cleaning procedures using BioGro approved cleaning materials.

5.5.5 Corking/Capping

a. Permitted materials

The following materials are permitted:

i. natural corks, not irradiated, may be treated with SO_2;
ii. screw-caps;
iii. particle cork glued only with high purity elastomer resins excluding all solvents, plasticising agents and formol;
iv. plastic lined crown caps; and
v. aluminum or tin capsules, beeswax.

b. Restricted materials

The following materials are restricted:

i. PVC capsules

c. Prohibited materials

i. composite corks incorporating polyurethane, solvents and plasticising agents;
ii. plastic and PVC corks; and
iii. corks treated with fungicides and pesticides.

5.6 Labelling

Labelling must convey clear and accurate information on the organic status of the wine. Labelling must comply with all regulatory requirements.

5.6.1 General requirements

a. It is recommended that the label should specify that additional product information is available on request.
b. For traceability, the label must include a batch number or name.
c. The licensee must be clearly identifiable on the label. If the BioGro name and/or logo is used, then the licensee's BioGro number must be stated on the label also, preferably beneath the logo or with the phrase "BioGro Number …" or similar.
d. All proposed labelling and packaging design using the BioGro trademark/logo or wording referring to BioGro certification, other than stickers supplied by BioGro, must be submitted to BioGro for written approval prior to printing.

5.6.2 Product descriptions and ingredient lists

a. Labelling of BioGro certified wines

BioGro certified wines may refer to "certified organic", "organic", "organically grown" or "organically produced" or similar in the product description and may use the BioGro trademark/logo.

> Note that some market have specific limitations on use of sulphur dioxide and copper sulphate in organic winemaking and wine made from organic grapes. These limitations affect the way such wines are labelled.

b. Labelling of BioGro conversion wines

Wines satisfying the requirements of section 5.3.8 above may use the phrase "Product under conversion to organic farming, certified by BioGro" in the product description. These words

must appear in a colour, size and style of lettering which is not more prominent than the sales description of the product, and the words “organic farming” and “certified by BioGro” must have equal prominence and not be more prominent than the words “product under conversion to”. Such products can not bear the BioGro logo, but may bear the BioGro Conversion logo.

5.6.3 Adhesives

In order to facilitate the reuse of glass containers, labels and adhesives must be of a type which will be easily removed in a standard glass washing process.

5.7 Transport, storage and distribution

Winemakers must comply with the requirements of *Module 14 Distribution Standard* for distribution, including exporting of certified wine. In particular note the requirements of *Module 14 Distribution Standard Section 4.9* for exporting of certified wine to regulated markets.

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