

UK National Level ESRA for Acetamiprid
V1-0, May 2020

Context and scope

[FSC-POL-30-001 V3-0 EN FSC Pesticides Policy](#) requires you, as an FSC Forest Management certificate holder, to undertake a comparative environmental and social risk assessment (ESRA) as part of your integrated pest management to identify the lowest risk option to control a pest, weed or disease, the conditions for its use and the generic mitigation and monitoring measures to minimise the risks (FSC-POL-30-001 V3-0 EN clause 4.12.2). ESRAs are not intended for use in the field, but must inform your operational level planning (FSC-POL-30-001 V3-0 EN clause 4.12.6).

To help you comply with ESRA requirements, the Policy allows the national Standard Development Group to complete the ESRA template (FSC-POL-30-001 V3-0 EN page 24); you can then use this pre-populated template when undertaking your own ESRA. This national level ESRA for acetamiprid has been produced on this basis, to support you in complying with the Policy. You are not obliged to rely on this guidance, nor are you obliged to use the FSC template for ESRAs; you may use your own template for risk assessments, provided you cover all of the content requirements of the Policy.

FSC has classified acetamiprid as a Restricted Highly Hazardous Pesticide (HHP). It is included in the hazard group Acute Toxicity under criterion 2 (Acute toxicity to mammals and birds), indicator 2.1, threshold (b) on the basis that it has an acute oral LD50 for rats/birds \leq 200 mg/kg body weight.

This ESRA covers standard forestry uses of acetamiprid for protection of seedlings from weevil damage.

The full ESRA, setting out a range of environmental and social values, the potential risks to those values from acetamiprid usage, and the strategies to minimise those risks, is provided for context on pages 8-20. The essential controls on acetamiprid usage are summarised on pages 3-7.

In due course, FSC will produce International Generic Indicators (IGIs) for the use of Highly Hazardous Pesticides, and these will be adapted to produce national indicators for specific pesticides. Compliance with these indicators will be compulsory. In the interim, the controls in this ESRA are for guidance only, although they will be considered by auditors when assessing your compliance with the Policy requirements. For more information on the timescale for full implementation of the Policy, visit the [FSC UK Pesticides Policy webpage](#).

Incorporating draft International Generic Indicators for the use of HHPs

The transition arrangements for the *FSC Pesticides Policy* (FSC-POL-30-001 V3-0 EN page 8) include an instruction for certificate holders to incorporate the requirements from the most recent published draft of the IGIs into their ESRA for Highly Hazardous Pesticides. This is further clarified in [interpretation](#) INT-POL-30-001_07, which states that

In this context, 'incorporate' means that the [certificate holder] shall review the most recent draft of the IGIs for the use of HHPs published by FSC International to identify aspects applicable to the HHP they intend to use, and, if relevant, bring these aspects into their ESRA.

Note that this requirement to incorporate relevant aspects of the draft IGIs into ESRA does not mean that direct compliance with these IGIs is compulsory. Once the IGIs have been finalised and used as the basis for national indicators for specific pesticides, compliance with these indicators will be mandatory.

The first published draft of the HHP IGIs is available from the [FSC UK Pesticides Policy webpage](#). For this acetamiprid ESRA, the relevant IGIs are those for all HHPs (pages 12-14) and those for Hazard Criterion 2 (pages 17-18).

High level integrated pest management requirements (draft IGIs 1.1, 1.3 and 1.4) are considered to be addressed through compliance with UKWAS section 3.4. Record keeping requirements (IGI 1.2) are considered to be addressed proportionately in controls Ace.5, 13 and 14. Minimum effective dosage (IGI 1.5) is considered to be addressed in controls UKWAS 3.4.1(b) and Ace.10. The provision of safety information to stakeholders (IGI 1.6) is considered to be addressed proportionately in controls UKWAS 2.3.1(a) and (c), and Ace.17. Buffer zones (IGI 1.7) are addressed in control Ace.8. Free, prior and informed consent requirements (IGI 1.8) are not considered to be applicable in the UK context. Requirements relating to emergency use or use by government order (IGIs 1.9 and 1.10) are not considered to be relevant to this ESRA, which covers planned use of acetamiprid.

Health and safety requirements (draft IGI 3.1) are considered to be addressed through controls Ace.1, 2, 3, 4, 12, 15 and 16, as well as UKWAS section 5.4. Treatment/compensation (IGI 3.2) and monitoring (IGI 3.3) are considered to be addressed in a manner proportionate to the level of risk through controls Ace.13 and 14.

FSC UK will continue to monitor the development of the IGIs, and will update this national level ESRA accordingly.



Controls

The following are the essential controls identified in the national level ESRA. They include new controls (**Ace.x**), but also existing controls in UKWAS (**UKWAS x.x.x**). Your own management unit level ESRA should incorporate these controls, but you may also identify other controls applicable to your specific circumstances. You must incorporate controls in your site level operational plans as appropriate, adapting them where necessary to site-specific risks (FSC-POL-30-001 V3-0 EN clause 4.12.6).

General strategies

Ace.1 Operations conform to FISA Safety Guide 202 *Application of pesticides by hand-held equipment*.

Guidance note: Owners/managers may also find it useful to refer to Pesticides: Code of practice for using plant protection products in England and Wales, Pesticides: Code of practice for using plant protection products in Scotland, or Pesticides: Code of practice for using plant protection products in Northern Ireland.

Ace.2 Operators hold NPTC PA1 and PA6 certificates of competence or LANTRA equivalents.

Ace.3 There is an appropriate COSHH assessment.

Ace.4 Operators comply with the requirements and relevant recommendations of the product label and the extension of authorisation for a minor use of a plant protection product.

Ace.5 Records of acetamiprid usage are maintained, including trade name, active ingredient, quantity of active ingredient used, period of use, number and frequency of applications, location and area of use, and reason for use. These records are kept for a minimum of five years.

Ace.6 There is awareness of research into chemical and non-chemical alternatives to acetamiprid carried out by Forest Research, the Hylobius Industry Research Programme or other agencies.

*Guidance note: Owners/managers should refer to the Forest Research note Interim guidance on the integrated management of *Hylobius abietis* in UK forestry.*

Ace.7 Individual certificate holders or group schemes with a total certified area of more than 5,000 hectares provide financial or in kind contributions to research into chemical and non-

chemical alternatives to acetamiprid carried out by Forest Research, the Hylobius Industry Research Programme or other agencies.

Guidance note: In kind contributions may include providing sites for field trials.

While large enterprises and other owners/managers may consider carrying out their own investigations into chemical and non-chemical alternatives to acetamiprid, to maximise the benefits of such investigations they should be coordinated with the work of agencies and other owners/managers wherever possible.

UKWAS 3.4.1(b) The use of pesticides, biological control agents and fertilisers shall be minimised.

UKWAS 3.4.3 Where pesticides and biological control agents are to be used:

- The owner/manager and workers shall be aware of and implement legal requirements and non-legislative guidance for use of pesticides and biological control agents in forestry
- The owner/manager shall keep records of pesticide usage and biological control agents as required by current legislation.

Water

Ace.8 Operations conform to *UK Forestry Standard* requirements and guidelines in relation to buffer zones around watercourses, waterbodies and abstraction points. There is no usage, mixing or filling of acetamiprid within 10 m of permanent watercourses with a channel <2 m wide, within 20 m of wider watercourses or lakes, reservoirs, large ponds or wetlands, or within 50 m of abstraction points for public or private water supplies, such as springs, boreholes, wells or surface water intakes.

Guidance note: This control is based on the recommended buffer widths in table 6.7.2 of UKFS. Also particularly relevant are UKFS good forestry practice requirement 8 for Forests and Water, and guidelines 62, 67 and 69 for Forests and Water. See also Forestry Commission Practice Guide 25 Managing forest operations to protect the water environment.

Ace.9 Impacts on water quality are monitored using data collected by drinking water inspectorates and/or statutory environment protection agencies.

Guidance note: Pesticides in water are known to be monitored by the [Drinking Water Inspectorate](#) in England and Wales, the [Drinking Water Inspectorate for Northern Ireland](#), and the [Drinking Water Quality Regulator for Scotland](#). Further relevant monitoring information may be available from the statutory environment protection agencies.



It is not expected that owners/managers will have the resources to collect data of the quality collected by statutory authorities, and owners/managers should rely on official data whenever possible. Owners/managers should collect their own data in response to significant incidents (e.g. spillage of pesticide etc.) where contamination of water supplies or environmental damage is likely to have occurred, in order that any damage can be assessed, and mitigated and/or repaired.

UKWAS 3.7.2 Plans and equipment shall be in place to deal with accidental spillages of fuels, oils, fertilisers or other chemicals.

UKWAS 5.1.1(b) A precautionary approach shall be adopted in relation to water supplies.

Non-target species

Ace.10 Applications are targeted to avoid run-off into the soil or contact with non-target plants.

*Guidance note: Applications should conform to the Forest Research note Interim guidance on the integrated management of *Hylobius abietis* in UK forestry, which recommends that ‘The spray should be carefully directed to cover the entire circumference of [the] lower half of the stem, allowing the solution to flow down the stem and onto the root collar. In addition the foliage should be treated, as this allows the systemic insecticide to be absorbed and then translocated around the plant. Run-off into the soil, or drift to surrounding soil or vegetation, should be minimised through the use of low spraying pressures (around 1 bar) and suitable nozzles, such as an adjustable cone nozzle.’*

High Conservation Values

Ace.11 There is appropriate consultation with the relevant statutory nature conservation body and/or other experts to identify and mitigate potential threats to statutory designated sites within and/or adjacent to the management unit.

UKWAS 2.2.1 All areas in the WMU shall be covered by management planning documentation which shall be retained for at least ten years and shall incorporate:

- c) Assessment of environmental values, including those outside the WMU potentially affected by management, sufficient to determine appropriate conservation measures and to provide a baseline for detecting possible negative impacts.
- d) Identification of special characteristics and sensitivities of the woodland and appropriate treatments.

- e) Specific measures to maintain and where possible enhance those areas identified under sections 4.1–4.5 and 4.8, considering areas where either the extent of these areas or their sensitivity to operations may be unknown.

UKWAS 2.3.1(a) Local people, relevant organisations and interested parties shall be identified and made aware that:

- New or revised management planning documentation, as specified under section 2.2.1, is being produced
- High impact operations are planned
- The woodland is being evaluated for certification.

UKWAS 2.3.1(c) The owner/manager shall consult appropriately with local people, relevant organisations and other interested parties, and provide opportunities for their engagement in planning and monitoring processes.

UKWAS 4.1.1(a) Areas and features of high conservation value having particular significance for biodiversity shall be identified by reference to statutory designations at national or regional level and/or through assessment on the ground.

UKWAS 4.1.1(c) There shall be ongoing communication and/or consultation with statutory bodies, local authorities, wildlife trusts and other relevant organisations.

UKWAS 4.1.1(d) Statutory designated sites shall be managed in accordance with plans agreed with nature conservation agencies, and shall be marked on maps.

Health and welfare

Ace.12 Operators have and use adequate personal protective equipment as specified on the product label and in the COSHH assessment.

Ace.13 Operator exposure to acetamiprid is monitored using pesticide application records and site checks of use of personal protective equipment. There is appropriate follow up action if personal protective equipment is not being used.

Ace.14 Operator health concerns are monitored using pesticide application records and site checks. There is appropriate follow up action if health concerns are identified.

Ace.15 Acetamiprid containers are stored safely and securely.



Food and water

Ace.16 Operations conform to Forestry Commission Practice Guide 15 guidance on protecting the public.

Guidance note: Refer to section 2.3 'Protection of the public'.

Rights

Ace.17 Where it is desirable to restrict public access to minimise health and safety risks, such restrictions are kept to the minimum extent and duration necessary to achieve their aims.

See also UKWAS 2.3.1(c) under High Conservation Values, above.

Environmental and social risk assessment

Pesticide: Acetamiprid

Purpose of use: Protection of seedlings from weevil damage

This ESRA is based on the listing of acetamiprid as a Highly Hazardous Pesticide as acutely toxic by ingestion, and as such it gives significant weight to mitigating risks to human health, primarily through the pathway of direct worker exposure. In practical reality, however, the highest risk is to aquatic life, and the ESRA gives greatest weight to mitigating this risk. Other potential impacts are also considered, but the proposed mitigation strategies and indicators are proportionate to the perceived lower level of risk.

It applies to acetamiprid itself and not to individual formulations, which may present other hazards.

It applies solely to standard forestry uses of acetamiprid, i.e. those covered by the certificates of competence mentioned in the ESRA. It does not apply to non-standard uses, which may require additional safeguards.

It applies not only to application of acetamiprid, but also to mixing, storage and waste disposal, all of which are covered by the best practice guidance cited in the proposed mitigation strategies and indicators.

The ESRA includes references to:

- [The UK Woodland Assurance Standard](#) (UKWAS), with cross-references to [FSC-STD-GBR-03-2017 V1-0 EN UK all forest types and scales](#) (the official FSC version of the standard).
- [The UK Forestry Standard](#) (UKFS), the governments' approach to sustainable forestry.
- [Forestry Commission Practice Guide 15 Reducing Pesticide Use in Forestry](#) (FCPG015).
- Forestry Commission Practice Guide 25 [Managing forest operations to protect the water environment](#) (FCPG025).
- [FISA Safety Guide 202 Application of pesticides by hand-held equipment](#) (FISA202).
- [Pesticides: Code of practice for using plant protection products](#), for England and Wales.
- [Pesticides: Code of practice for using plant protection products in Scotland](#).
- [Pesticides: Code of practice for using plant protection products](#), for Northern Ireland.
- Forest Research note [Interim guidance on the integrated management of Hylobius abietis in UK forestry](#).

Exposure Elements	Minimum list of values	Description of why/why not a risk	Mitigation strategies defined to minimize risk	Controls
			<p>Overview From the descriptions of risk, it is clear that the principal issues are worker safety/welfare and the potential for the contamination of water. Mitigation strategies are focussed on these key risks, but also address the other, lesser risks identified: the potential impacts on non-target insect species, the potential for the contamination of wild foods, and effects on public access.</p> <p>General strategies While this ESRA comes at a point in the IPM process where it has already been decided that the use of acetamiprid is necessary, most of the risks described can be mitigated to some degree by minimising the volume used, in terms of the number of seedlings treated, the volume applied to each seedling, and the frequency of application. For this reason, the overarching UKWAS requirement to minimise pesticide use (UKWAS 3.4.1(b) [FSC 10.7.2]) is a key general mitigation strategy. This is monitored via UKWAS 3.4.3 [FSC 10.7.8].</p> <p>Mitigation of risks to worker safety and water, as well as risks such as poorly targeted applications affecting non-target insect species, can be achieved largely through conformance to FISA Safety Guide 202 <i>Application of pesticides by hand-held equipment</i>, which addresses the following issues:</p> <ul style="list-style-type: none"> • Certificates of competence, • Personal protective equipment (PPE) and hygiene requirements, • The applicator, • Emergency procedures, • Planning to spray, • Preparing to spray, • Spraying, • After spraying, and 	<p>Ace.1 Operations conform to FISA Safety Guide 202 <i>Application of pesticides by hand-held equipment</i>.</p> <p>Guidance note: <i>Owners/managers may also find it useful to refer to Pesticides: Code of practice for using plant protection products in England and Wales, Pesticides: Code of practice for using plant protection products in Scotland, or Pesticides: Code of practice for using plant protection products in Northern Ireland.</i></p> <p>Ace.2 Operators hold NPTC PA1 and PA6 certificates of competence or LANTRA equivalents.</p> <p>Ace.3 There is an appropriate COSHH assessment.</p> <p>Ace.4 Operators comply with the requirements and relevant recommendations of the product label and the extension of authorisation for a minor use of a plant protection product.</p>

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			<ul style="list-style-type: none"> • Weather conditions. <p>Checking conformance with FISA202 ensures adherence to the COSHH assessment (i.e. an assessment carried out in accordance with the Control of Substances Hazardous to Health Regulations 2002); the use of a suitable, properly maintained and calibrated applicator; appropriate emergency planning and safety signage; safe transport and storage; and appropriate waste disposal. Most of this will be achieved through suitable contracts and supervision.</p> <p>All risks are mitigated to some degree by appropriate operator training, as evidenced by certificates of competence. All operators working with acetamiprid should hold the National Proficiency Tests Council (NPTC) or Scottish Skills Testing Service (SSTS) certificates PA1 (Foundation module) and PA6 (Hand-held applicators) or LANTRA equivalents.</p> <p>PA1 leads to the following outcomes:</p> <ul style="list-style-type: none"> • Outcome 1. Know the legislative requirements and codes of practice relating to the use of pesticides • Outcome 2. Understand the relevance of product information • Outcome 3. Know how to minimise the risk of human contamination and implement emergency procedures • Outcome 4. Know how to store and transport pesticides safely • Outcome 5. Know how to manage and dispose of surplus pesticide and waste materials • Outcome 6. Know the record keeping requirements • Outcome 7. Know how to minimise the risk of environmental contamination and implement emergency procedures 	<p>Ace.5 Records of acetamiprid usage are maintained, including trade name, active ingredient, quantity of active ingredient used, period of use, number and frequency of applications, location and area of use, and reason for use. These records are kept for a minimum of five years.</p> <p>Ace.6 There is awareness of research into chemical and non-chemical alternatives to acetamiprid carried out by Forest Research, the Hylobius Industry Research Programme or other agencies.</p> <p><i>Guidance note:</i> <i>Owners/managers should refer to the Forest Research note Interim guidance on the integrated management of Hylobius abietis in UK forestry.</i></p> <p>Ace.7 Individual certificate holders or group schemes with a total certified area of more than 5,000 hectares provide financial or in kind contributions to research into chemical and non-chemical alternatives to acetamiprid</p>

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			<p>PA6 leads to the following outcomes:</p> <ul style="list-style-type: none"> • Outcome 1. Know the legislative and safety regulations relating to applicator use • Outcome 2. Be able to assess the environmental factors relating to mixing and application • Outcome 3. Be able to read and interpret product information • Outcome 4. Be able to prepare and calibrate a hand held pedestrian applicator • Outcome 5. Be able to operate the application equipment • Outcome 6. Know how to carry out post-operational procedures <p>All risks are also mitigated to some degree by complying with the product label and, in the case of forestry usage of acetamiprid, the extension of authorisation for a minor use of a plant protection product.</p>	<p>carried out by Forest Research, the Hylobius Industry Research Programme or other agencies.</p> <p><i>Guidance note: In kind contributions may include providing sites for field trials.</i></p> <p><i>While large enterprises and other owners/managers may consider carrying out their own investigations into chemical and non-chemical alternatives to acetamiprid, to maximise the benefits of such investigations they should be coordinated with the work of agencies and other owners/managers wherever possible.</i></p> <p><i>See also UKWAS 3.4.1(b) and 3.4.3 [FSC 10.7.2 and 10.7.8 respectively].</i></p>
Environmental	Soil (erosion, degradation, biota, carbon storage)	Standard forestry usage of acetamiprid is not considered to have any significant impacts. There may be positive effects from promoting prompt	N/A	N/A

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		reestablishment of tree cover.		
	Water (ground water, surface waters, water supplies)	Acetamiprid is known to be harmful to aquatic life with long lasting effects (CLP H412). The greatest risk of harm comes from mixing and filling undiluted products.	<p>Water protection is addressed explicitly in paragraphs 20, 26 and 33 of FISA202, but also throughout the guide. While a wide range of measures, including careful transport and storage, are important in protecting water resources, the principal measure to protect surface waters and water supplies is to identify them and to respect appropriate buffer zones around them, as per paragraph 20:</p> <p>20 Check the precise location of any domestic water supply, rivers, streams, ditches or ponds. Plan to leave a suitable buffer strip (see product label) to avoid contamination.</p> <p>In addition to buffer widths specified on acetamiprid product labels, various minimum distances between operations and surface water etc. are set out in the <i>UK Forestry Standard Guidelines on Forests and Water</i> 62, 67 and 69:</p> <p>62 The preparation of pesticide for application and the filling, cleaning or maintenance of pesticide sprayers shall be undertaken in conditions such that any spillage, run-off or washings will be prevented from entering any surface water or wetland; these activities shall not be undertaken within 10 m of any surface water or wetland, or any opening into a surface water drainage system.</p> <p>67 No pesticide shall be applied in, onto or over ground, or allowed to drift onto or over ground that is within 1 m of any surface water or wetland; is within 50 m of any spring, well or borehole; is frozen, waterlogged or covered with snow (except where the application in, onto or over waterlogged ground is necessary to control fungal disease and all precautions are taken to minimise</p>	<p>Ace.8 Operations conform to <i>UK Forestry Standard</i> requirements and guidelines in relation to buffer zones around watercourses, waterbodies and abstraction points. There is no usage, mixing or filling of acetamiprid within 10 m of permanent watercourses with a channel <2 m wide, within 20 m of wider watercourses or lakes, reservoirs, large ponds or wetlands, or within 50 m of abstraction points for public or private water supplies, such as springs, boreholes, wells or surface water intakes.</p> <p><i>Guidance note: This control is based on the recommended buffer widths in table 6.7.2 of UKFS. Also particularly relevant are UKFS good forestry practice requirement 8 for Forests and Water, and guidelines 62, 67 and 69 for Forests and Water. See also Forestry Commission Practice Guide 25 Managing forest operations to protect the water environment.</i></p>

Exposure Elements	Minimum list of values	Description of why/why not a risk	Mitigation strategies defined to minimize risk	Controls
			<p>the risk of contamination of any surface water or wetland); is sloping (unless it is ensured that any run-off of pesticide will be intercepted by a sufficient buffer zone); has an impermeable surface which drains directly into a surface water drainage system (unless measures are taken to minimise this risk); or is along roads, railway lines, permeable surfaces or other infrastructure (unless measures are taken to minimise the risk of pollution of any surface water or wetland).</p> <p>69 No pesticide, including any used packaging that has been stored in contact with pesticide, shall be stored on land that is within 10 m of any surface water or wetland, or 50 m of any spring, well or borehole; or on an impermeable surface draining to a surface water drainage system.</p> <p>Risks can be reduced by going beyond these minimum requirements and observing the recommended buffer widths in table 6.7.2 of UKFS.</p> <p>Special care is required when mixing, filling and diluting pesticide concentrates ready for application. In forestry, pesticides are usually mixed on or near to the treatment site, so it is extremely important to choose the mixing area carefully, make sure it is outside aquatic buffer zones, and take precautions to avoid contaminating the wider environment.</p> <p>FISA202 also requires that safe areas be identified for diluting and mixing pesticides and for filling applicators, and that appropriate arrangements are in place to deal with spillages (paragraph 24).</p>	<p>Ace.9 Impacts on water quality are monitored using data collected by drinking water inspectorates and/or statutory environment protection agencies.</p> <p><i>Guidance note: Pesticides in water are known to be monitored by the Drinking Water Inspectorate in England and Wales, the Drinking Water Inspectorate for Northern Ireland, and the Drinking Water Quality Regulator for Scotland.</i></p> <p><i>Further relevant monitoring information may be available from the statutory environment protection agencies.</i></p> <p><i>It is not expected that owners/managers will have the resources to collect data of the quality collected by statutory authorities, and owners/managers should rely on official data whenever possible. Owners/managers should collect their own data in response to significant incidents (e.g. spillage of pesticide etc.) where contamination of water supplies or environmental</i></p>

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			<p>UKWAS 3.7.2 [FSC 6.3.3] requires that plans and equipment must be in place to deal with accidental spillages of chemicals.</p> <p>In addition, UKWAS 5.1.1(b) [FSC 9.3.9] requires that a precautionary approach be adopted in relation to water supplies.</p>	<p><i>damage is likely to have occurred, in order that any damage can be assessed, and mitigated and/or repaired.</i></p> <p><i>See also UKWAS 3.7.2 and 5.1.1(b) [FSC 6.3.3 and 9.3.9 respectively].</i></p>
	Atmosphere (air quality, greenhouse gasses)	Standard forestry usage of acetamiprid is not considered to have any significant impacts.	N/A	N/A
	Non-target species (vegetation, wildlife, bees and other pollinators, pets)	<p>There are potential impacts on non-target insect species. While as with any insecticide there are theoretical potential impacts on bees if they were to ingest it, acetamiprid is thought to present a lower risk than other neonicotinoids, and because application is to non-flowering plants, this minimises the risk of exposure of bees to the chemical.</p> <p>Standard forestry usage of acetamiprid is not considered to have any significant</p>	Risks to non-target species are best mitigated by carefully targeted application, which helps to minimise the volume applied to each seedling and to avoid spraying surrounding vegetation. This requires both appropriate equipment and appropriate technique.	<p>Ace.10 Applications are targeted to avoid run-off into the soil or contact with non-target plants.</p> <p><i>Guidance note: Applications should conform to the Forest Research note Interim guidance on the integrated management of <i>Hylobius abietis</i> in UK forestry, which recommends that 'The spray should be carefully directed to cover the entire circumference of [the] lower half of the stem, allowing the solution to flow down the stem and onto the root collar. In addition the foliage should be treated, as this allows the systemic insecticide to be absorbed and then</i></p>

Exposure Elements	Minimum list of values	Description of why/why not a risk	Mitigation strategies defined to minimize risk	Controls
		impacts on insectivorous birds or mammals given its low potential for bioaccumulation.		<i>translocated around the plant. Run-off into the soil, or drift to surrounding soil or vegetation, should be minimised through the use of low spraying pressures (around 1 bar) and suitable nozzles, such as an adjustable cone nozzle.'</i>
	Non-timber forest products (as FSC-STD-01-001 V5-2 FSC Principles and Criteria, criterion 5.1)	Standard forestry usage of acetamiprid is not considered to have any significant impacts, on the basis that it presents no specific risk to honey bees and therefore honey production.	N/A	N/A
	High Conservation Values (particularly HCV 1-4)	<p>As noted previously, there are potential impacts on non-target insect species (HCV 1).</p> <p>HCV 2 is not considered to be present in the UK.</p> <p>Standard forestry usage of acetamiprid is not considered to have any significant impacts on HCV 3 and 4.</p>	<p>In the UK context, HCV 1 (concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels) is taken to be represented by biological Sites of Special Scientific Interest (SSSIs, in England, Scotland and Wales) and Areas of Special Scientific Interest (ASSIs, in Northern Ireland). For more information, see the <i>National High Conservation Value Framework for the United Kingdom</i>, available at https://www.fsc-uk.org/en-uk/business-area/fsc-certificate-types/forest-management-fm-certification/forest-certification.</p> <p>If a SSSI or ASSI is designated in whole or in part because of individual insect species or species assemblages, risks to non-target insect species could also threaten the High Conservation Value.</p>	<p>Ace.11 There is appropriate consultation with the relevant statutory nature conservation body and/or other experts to identify and mitigate potential threats to statutory designated sites within and/or adjacent to the management unit.</p> <p><i>See also UKWAS 2.2.1(c), 2.2.1(d), 2.2.1(e), 2.3.1(a), 2.3.1(c), 4.1.1(a), 4.1.1(c) and 4.1.1(d) [FSC 7.2.1.3, 7.2.1.4, 7.2.1.5, 9.1.1, 4.1.1, 9.4.2, 9.1.2 and 9.3.2 respectively].</i></p>

Exposure Elements	Minimum list of values	Description of why/why not a risk	Mitigation strategies defined to minimize risk	Controls
			<p>The <i>National HCV Framework</i> includes sources of mapping information for identifying SSSIs and ASSIs. Maps will often provide direct links to site descriptions, including the reasons for designation and lists of operations likely to damage the special interest (and which, within the boundary of the site, require the consent of the relevant statutory nature conservation body).</p> <p>Within a SSSI or ASSI, consultation with the relevant statutory nature conservation body is essential. In areas adjacent to SSSIs or ASSIs, recognising that the capacity of statutory bodies is limited, it may also be possible to seek the advice of other experts, for example from organisations such as BugLife or Butterfly Conservation. They may be able to advise on suitable mitigation measures such as temporary or permanent buffer zones.</p> <p>UKWAS requirements 2.2.1(c) [FSC 7.2.1.3], 2.2.1(d) [FSC 7.2.1.4] and, in particular, 2.2.1(e) [FSC 7.2.1.5] and 4.1.1(a) [FSC 9.1.1] address awareness of potentially affected sites. Consultation is addressed in UKWAS 2.3.1(a) [FSC 4.1.1], 2.3.1(c) [FSC 9.4.2] and 4.1.1(c) [FSC 9.1.2], and appropriate management of designated sites within the management unit is addressed in UKWAS 4.1.1(d) [FSC 9.3.2].</p>	
	Landscape (aesthetics, cumulative impacts)	Standard forestry usage of acetamiprid is not considered to have any significant impacts. There may be positive effects from promoting prompt reestablishment of tree cover.	N/A	N/A

Exposure Elements	Minimum list of values	Description of why/why not a risk	Mitigation strategies defined to minimize risk	Controls
	Ecosystem services (water, soil, carbon sequestration, tourism)	As noted previously, there are potential impacts on water . Standard forestry usage of acetamiprid is not considered to have any significant impacts on soil, carbon sequestration or tourism.	See the strategies for water, above.	See the controls for water, above.
Social	High Conservation Values (especially HCV 5-6)	As noted previously, there are potential impacts on water supplies (HCV 5) . Standard forestry usage of acetamiprid is not considered to have any significant impacts on cultural values (HCV 6).	See the strategies for water, especially in relation to water supplies, above. Appropriate communication and consultation as per UKWAS 2.3.1(a) [FSC 4.1.1] and 2.3.1(c) [FSC 9.4.2] will be important to ensure that neighbours with private water supplies are suitably informed and able to discuss mitigation measures.	See the controls for water, above. <i>See also UKWAS 2.3.1(a) and 2.3.1(c) [FSC 4.1.1 and 9.4.2 respectively].</i>
	Health (fertility, reproductive health, respiratory health, dermatologic, neurological and gastrointestinal problems, cancer and hormonal imbalance)	Acetamiprid is known to be harmful if swallowed (CLP H302). There is no obvious pathway for workers to ingest harmful quantities in normal use. There is no obvious pathway for members of the public to ingest harmful	Worker safety and welfare are addressed primarily in the PPE and hygiene requirements of FISA202 (paragraphs 2-11), but also throughout the guide, including paragraph 58 regarding the effects of PPE and weather on worker stress. Minimum PPE requirements for application, handling of product concentrate and handling of contaminated surface must be based on the product label, the extension of authorisation for a minor use of a plant protection product, the COSHH assessment and FISA202. (Engineering controls may replace personal protective equipment if the COSHH assessment shows they provide an equal or higher standard of protection.	Ace.12 Operators have and use adequate personal protective equipment as specified on the product label and in the COSHH assessment. Ace.13 Operator exposure to acetamiprid is monitored using pesticide application records and site checks of use of personal protective equipment. There is

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		quantities unless they have direct access to stored chemical.	Public safety is addressed primarily through the requirement for safe storage of pesticides on site in FISA202 (paragraph 30).	<p>appropriate follow up action if personal protective equipment is not being used.</p> <p>Ace.14 Operator health concerns are monitored using pesticide application records and site checks. There is appropriate follow up action if health concerns are identified.</p> <p>Ace.15 Acetamiprid containers are stored safely and securely.</p>
	Welfare	<p>Standard forestry usage of acetamiprid may have indirect effects on worker welfare through the weight of spraying gear or overheating as a result of wearing personal protective equipment.</p> <p>In addition, workers must have access to clean water for both washing and drinking.</p>		
	Food and water	<p><i>Note: This value is taken to refer to wild forest foods (rather than agricultural crops) and to drinking water.</i></p> <p>Standard forestry usage of acetamiprid is unlikely to lead to any contamination of fruits etc., and even if it did occur, contact with residues immediately after treatment or</p>	<p>Risks to food are best mitigated by carefully targeted application; see the strategies for non-target species, above.</p> <p>The risk of members of the public picking fruit or fungi which have been recently contaminated with pesticides can be further mitigated through conformance to Forestry Commission Practice Guide 15 <i>Reducing Pesticide Use in Forestry</i>. Section 2.3 'Protection of the public' explicitly addresses this issue:</p> <p>In all cases, if practical and legally possible, it is preferable to totally exclude forest users from the work-site, or close the recreation site or footpath/right of way on the work-site margins. The method of exclusion, through barriers or signage, will depend on the type of</p>	<p>Ace.16 Operations conform to Forestry Commission Practice Guide 15 guidance on protecting the public.</p> <p><i>Guidance note: Refer to section 2.3 'Protection of the public'.</i></p>

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		<p>consumption of foods is not known to be harmful.</p> <p>As noted previously, there are potential impacts on water supplies.</p>	<p>user identified... The duration of exclusion will depend on the presence or absence of edible fruit or fungi.</p> <p>(i) If edible fruit or fungi that are likely to be picked are present, close the site until the produce dies. Alternatively, treat the site at a time of year when no edible produce is present, or trim off the plants to prevent fruiting.</p> <p>(ii) If no edible fruit or fungi are present, close the site for 48 hours after spraying, or until the pesticide dries and there is no liquid residue that might cause accidental contamination of the public.</p> <p>See also the strategies for water, above.</p>	
	<p>Social infrastructure; (schools and hospitals, recreational infrastructure, infrastructure adjacent to the management unit)</p>	<p>Standard forestry usage of acetamiprid is not considered to have any significant impacts.</p>	<p>N/A</p>	<p>N/A</p>
	<p>Economic viability (agriculture, livestock, tourism)</p>	<p>Acetamiprid usage may potentially have impacts on some water-based enterprises (such as fish farming), or on water supplies for enterprises (such as breweries or distilleries).</p>	<p>See the strategies for water, above.</p>	<p>See the controls for water, above.</p>
	<p>Rights (legal and customary)</p>	<p>Standard forestry usage of acetamiprid may lead to actual or perceived</p>	<p>Some restrictions to public access, in line with section 2.3 of FCPG015, are desirable in order to minimise other risks. However, where such restrictions are imposed, they should</p>	<p>Ace.17 Where it is desirable to restrict public access to minimise health and safety risks, such restrictions are</p>

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		<p>restrictions on rights of access.</p> <p>Acetamiprid usage may potentially have impacts on rights to uncontaminated water.</p>	<p>be kept to the minimum extent and duration necessary to achieve their aims.</p> <p>In addition to actual restrictions on public access, some forest users may feel excluded because of their uncertainties about operations or their concerns about safety. This risk is best mitigated through appropriate stakeholder engagement, as addressed by UKWAS 2.3.1(c) [FSC 7.6.1].</p> <p>See also the strategies for water, above.</p>	<p>kept to the minimum extent and duration necessary to achieve their aims.</p> <p>See also the controls for water, above.</p> <p><i>See also UKWAS 2.3.1(c) [FSC 7.6.1].</i></p>
	Others	No other risks have been identified.	N/A	N/A