



Type of document:	FSC® Pesticide Derogation Approval
Confidentiality:	No restrictions
Approved by:	FSC Board Pesticides Committee
Effective Date:	23 May 2016
Expiration Date:	23 May 2021
Related Documents:	<i>FSC-POL-30-001 FSC Pesticides Policy</i> <i>FSC-STD-30-001 Indicators and thresholds for the identification of 'highly hazardous' pesticides (HHP)</i> <i>FSC-PRO-30-001 Pesticide Derogation Procedure</i>

Pesticide derogation:	Use of Fipronil in Colombia
FSC reference code:	FSC-DER-30-V1-1 EN Fipronil Colombia 23052016

**Date:** 23 May 2016

**FSC Board Committee decision:**

Approve a derogation to use **Fipronil** for control of leaf-cutting ants (*Atta laevigata*, *Atta colombica*, and *Acromyrmex landolti*) in certified forest plantations in Colombia, provided that during the derogation period the certificate holders:

1. identifies ant species causing major damage and susceptible tree species, estimates damage, defines a critical density (acceptable maximum for achieving silvicultural objectives), monitors distribution of ant colonies, and locates highly infested areas (where estimated density exceeds critical value);<sup>1</sup>
2. limits fipronil use to minimum effective dose (assessed in tests) in highly infested areas and young plantations during establishment (1-2 years after planting), and complements this with alternatives, for example *Beauveria bassiana* or another pathogenic fungus (if available), possibly combined with diatomaceous earth, plant extract, etc;
3. reduces risks to mammals, birds, and other animals by applying baits during season and time of day when ants are most active (ensuring maximum collection), limits application to ant nests, gradually reduces total annual use, and employs dispensers (porta-iscas) or sachets ('MIPIS') where possible;
4. conducts or participates in tests on pathogenic fungi (*Beauveria bassiana*, *Metarhizium*

<sup>1</sup> Nickele M.A. (2008) Amostragem de *Acromyrmex crassispinus*. <http://dspace.c3sl.ufpr.br:8080/dspace/handle/1884/16942>  
Reis M. de A., et al. Amostragem de formigas-cortadeiras em eucaliptais. Revista Árvore 2010, 34(6): 1101-8. <http://dx.doi.org/10.1590/S0100-67622010000600016>  
Valle G.M., et al (2002). Utilización de tecnología SIG/GPS en el manejo integrado de hormigas cortadoras en plantaciones forestal. <http://www.minagri.gob.ar/new/0-0/forestacion/biblos/pdf/2002/posters2002/171%20valle%20trab%20compl.pdf>

*anisopliae*, *Paecilomyces* species, *Trichoderma viride*, etc), possibly combined with diatomaceous earth, toxic plant extracts,<sup>4</sup> antagonistic agents (*Trichoderma harzianum*, *T. lignorum*, or *Escovopsis weberi* etc, inhibiting symbiotic fungi),<sup>5</sup> an alternative chemical insecticide (e.g. hydramethylnon), or with a pheromone or botanical product (e.g. *Hovenia dulcis*, *Aleurites fordii*) to increase bait attractiveness;

5. collaborates with experts and PhD students at universities, commercial enterprises, government agencies, and other forest companies in research on *integrated management* of leaf-cutting ants, for example preventive silvicultural practices (selecting tree species that are well-adapted to local conditions and less susceptible to ants), reduced weed control (retaining part of ground vegetation), growing cover crops (e.g. *Mucuna bracteata*), reduced harvest intensity if feasible (e.g. shelterwood or mosaic cuts, strip clear-cuts, underplanting, retaining shade trees), and preserves natural enemies (birds, predatory or parasitic insects) by abstaining from complete control and providing zones with natural forest on part of FMU ('appropriate to scale and intensity of the management activities');<sup>2</sup>
6. keeps records on approximate number of ant colonies per ha, number of colonies treated, total annual use of fipronil (kg bait per ha), level of control (approximate colony density - before and after control), includes data in audit reports, provides a mid-term report to certifier (informs FSC IC) until end of December 2017 on progress with programme for alternatives, and sets quantitative reduction targets;
7. strictly follows legislation in Colombia for pesticide use and internal safety guidelines, in particular use of adequate personal protective equipment and training of workers, and maintaining minimum buffer zone near surface waters, catchment area (for public water supplies), sensitive areas (natural habitat);
8. consults with directly or potentially affected parties where insecticide baits are used and,

<sup>4</sup> E.g. extract of *Ateleia glazioviana*, *Canavalia ensiformis*, *Centrosema brasilianum*, *Citrus sinensis*, *Helietta puberula*, *Hymenaea courbaril*, *Ipomea batata*, *Manihot esculenta*, *Myroxylon peruiferum*, *Pilocarpus grandiflorus*, *Piper cenocladum*, *Raulinoa echinata*, *Ricinus communis*, *Sesamum indicum*, or *Trichillia glauca*.

dos Santos J.C., et al. Plant-derived products for leaf-cutting ants control; In Trdan S. (2013). Insecticides; chapter 9. <http://www.intechopen.com/books/insecticides-development-of-safer-and-more-effective-technologies>

Araújo G. (2011). Incremento da eficiência de iscas. <http://uenf.br/pos-graduacao/producao-vegetal/files/2014/08/Gabriela.pdf>

<sup>5</sup> Bettucci L., et al (2014). Hongos entomopatógenos para el control de hormigas cortadoras. Fac. Ciencias Udelar <http://www.inia.uy/Documentos/P%3%C3%BAblicos/INIA%20Tacuaremb%C3%B3/VII%20Jornada%20de%20Proteccion%20Forestal/05%20Lupo%20-%20Hongos%20entomopat%C3%B3genos%20en%20hormigas%20cortadoras.pdf>

Ortiz Reyes A. (1998). *Trichoderma* o *Gliocladium* para el control de *A. cephalotes*. [www.bdigital.unal.edu.co/12821/](http://www.bdigital.unal.edu.co/12821/)

Silva A., et al. Mycopathologia 2006, 162(2): 115-9.

<http://www.springerlink.com/content/21p71w7135710k60/>

Haeder S., et al. PNAS 2009, 106(12): 4742-6. <http://www.pnas.org/content/106/12/4742.full>

<sup>2</sup> Revised Principle 6.4 and 6.5, P&C V5-1, 2014 (Principle 6.4 and 10.5 of FSC Principles & Criteria V4-0, 2002)

especially near nature reserves (parks) and sensitive areas (wildlife habitat or surface waters), consults with local or regional authorities for environmental protection and scientific experts on wildlife conservation.

**List of FSC certified forestry units covered under this Fipronil derogation:**

FSC Certificate Holder	Certificate Number
Reforestadora de la Costa S.A.S.	RA-FM/COC-004221

**Note:** Failure to demonstrate compliance with the conditions included in this document may result in the termination of the derogation.