Seed oil of Impatiens glandulifera as a new BioPesticide

The recently discovered iso-parinaric acid represents an innovative compound delivering powerful insecticidal action against harmful pests. Most importantly, first trials have shown that this isomer acts as an efficient repellent and is safe for beneficial insects—including honey bees and other pollinators—ensuring that essential ecosystem services remain unimpaired. This new solution sets a higher standard for responsible and environmentally friendly agriculture.

New parinaric acid isomer is highly effective against pests.

IP RIGHTS
EP Pending
2025

In initial trials, the new active ingredient of the seed oil from the invasive neophytic plant I. glandulifera demonstrated efficacy against fruit flies (Drosophila melanogaster, Drosophila suzukii), red flour beetles (Tribolium castaneum), yellow-spotted sap beetles (Carpophilus hemipterus), and brown marmorated stink bugs (Halyomorpha halys) and probably more.

01 Safe for honey bees and beneficial insects
02 Based on easily cultivable abundant and raw materials
03 Offers industrially scalable extraction, e.g. using supercritical CO2
04 The new formulation leads a new strategy toward environmental stewardship in modern agriculture

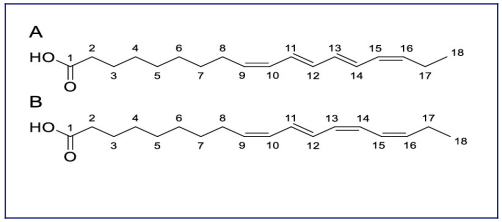


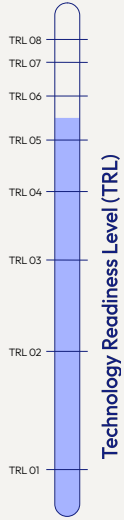
Figure 1
A: The known (9Z,11E,13E,15Z)-octadeca-9,11,13,15-tetraenoic acid (α-parinaric acid)
B: The recently discovered (9Z,11E,13Z,15Z)-octadeca-9,11,13,15-tetraenoic acid (iso-parinaric acid)

CHALLENGE

Our goal is to identify novel active compounds that deliver optimal efficacy against a broad spectrum of agricultural pests, while ensuring that beneficial insects—such as pollinators and natural enemy species—are not adversely affected.

INNOVATION

The novel iso-parinaric acid raises the standard for sustainable agriculture by targeting major pests with both repellent and, at higher doses, toxic effects, including disruption of their life cycles. As a repellent it is highly effective, yet absolutely safe for honey bees and other beneficial insects. Based on abundant and easily cultivable raw materials and suitable for industrial-scale production, it offers an effective and environmentally friendly crop protection solution.



01 Basic principles observed · **02** Technology concept formulated · **03** Experimental proof of concept · **04** Technology validated in lab · **05** Technology validated in relevant environment · **06** Technology demonstrated in relevant environment · **07** System prototype demonstrated in operational environment · **08** System complete and qualified

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