https://fyi.org.nz/request/35468-worker-exposure-to-experimental-pesticides-app205201-and-app205221

WORKSAFE NEW ZEALAND

OFFICIAL INFORMATION ACT REQUEST:

Worker exposure to experimental pesticides APP205201 and APP205221

J R BRUNING. SEPTEMBER 15, 2026.

This request concerns EPA approvals APP205201 (Syngenta, 84 experimental substances) and APP205221 (Corteva, 20 experimental substances) for experimental pesticide research, including field, glasshouse and laboratory trials.

The applications raise a particular occupational-health issue because some substances are novel or have not previously undergone overseas regulatory assessment. The public material identifies worker exposure during activities including dispensing, mixing, application and handling treated material. Corteva identifies personnel applying the substances as facing the most likely exposure risk and states that PPE is selected according to the known hazardous properties of each substance.

WorkSafe guidance recognises personal exposure monitoring, biological exposure monitoring and health monitoring as potential components of managing workplace exposure to hazardous substances.

This request concerns the approvals for incompletely characterised experimental pesticides:

Syngenta APP205201: application dated 15 June 2026; EPA decision notified 30 July 2026. That is 45 days from the date on the application to notified decision.

Corteva APP205221: application dated 27 July 2026; EPA decision notified 24 August 2026. That is just 28 days.

These active ingredients and their formulation compounds have not been publicly disclosed. There is no disclosure of the extent to which these active ingredients have been risk assessed by other jurisdictions such as the European Food Safety Authority:

- Corteva: ‘As no data exists on these compounds’
- Syngenta: ‘These include active ingredients that have been approved by regulatory authorities around the world, and novel compounds that are in the early stage of development and therefore have not been assessed by any overseas regulatory authority.’

The publicly available applications focus on efficacy, crop safety and residue data, and do not disclose any requirement for prospective worker-health monitoring or biomonitoring.

This raises a fundamental question concerning the adequacy of current approval processes and protocols: how can a regulator be satisfied that worker-health risks are adequately controlled where the hazards, exposure pathways and potential short- and long-term effects of an experimental substance may themselves be incompletely characterised?

The issue is amplified by scale: the two approvals encompass 104 experimental substances, some of which may be novel and previously unassessed by an overseas regulator.

If New Zealand permits experimental field use on a weaker evidential and monitoring basis than comparable regulatory jurisdictions, it risks creating a comparatively permissive environment for trials involving incompletely characterised substances.

That raises a fundamental public-interest question: are the benefits of regulatory flexibility accruing to developers while the uncertainty, including potentially undetected short- and long-term health effects, is being transferred to New Zealand workers?

There is also an important equity dimension. Occupational risks are not necessarily distributed evenly across society. Lower-income workers, migrant workers and people from socioeconomically disadvantaged communities can be disproportionately represented in frontline and agricultural work. Where experimental hazards remain uncertain and health monitoring is absent, the burden of regulatory uncertainty may therefore fall disproportionately on workers with less power to identify, avoid or challenge occupational exposure.

Incompletely characterised substances also present a particular monitoring problem. Acute effects may be observable, while delayed, cumulative or subclinical effects may not be. Without appropriate exposure monitoring, biomonitoring or prospective health monitoring, there may be no systematic means of determining whether workers have absorbed an experimental substance, whether relevant metabolites are present, or whether biological changes associated with repeated exposure are emerging over time. PPE and handling controls may reduce exposure, but they neither demonstrate that exposure has not occurred nor provide a means of detecting biological effects if it has.

This problem has been specifically considered by the European Food Safety Authority (EFSA). Its 2017 Scientific Opinion on pesticide epidemiology identified poor exposure characterisation as a major limitation in understanding pesticide-related health risks and recommended, where appropriate, individual-level personal exposure monitoring or measurement of pesticide-specific biomarkers. EFSA's accompanying work on human biomonitoring examined occupational pesticide surveillance and the availability of validated biomarkers of exposure or effect.

EFSA PPR Panel (EFSA Panel on Plant Protection Products and their Residues), Ockleford C, Adriaanse P, Berny P, et al. Scientific Opinion of the PPR Panel on the follow-up of the findings of the External Scientific Report ‘Literature review of epidemiological studies linking exposure to pesticides and health effects’. EFSA Journal 2017;15(10):5007, 101 pp. https://doi.org/10.2903/j.efsa.2017.5007

EFSA also links exposure monitoring directly to Commission Regulation (EU) No 283/2013, noting that applicants must provide analytical methods capable of supporting exposure assessment and monitoring. More recently, EU-OSHA's 2025 Biological monitoring at work guidance, developed at the request of the European Commission, provides practical guidance on selecting appropriate biomarkers, test parameters, biological matrices, sampling times and interpretation.

These frameworks stand in stark contrast to the apparent absence of an equivalent New Zealand framework for monitoring the health of workers exposed to novel experimental pesticides. Where

toxicology, metabolites, appropriate biomarkers, biological reference values or analytical methods are themselves incompletely characterised, how can occupational exposure and early biological effects be reliably detected, and how can subsequent findings be interpreted where an appropriate pre-exposure baseline has not been established?

It suggests that NZ EPA's recent approvals may not be based upon any human health risk assessment or capacity to monitor baseline health. Syngenta states that its application includes both active ingredients approved by regulators overseas and "novel compounds that are in the early stage of development and therefore have not been assessed by any overseas regulatory authority". Corteva states that "no data exists on these compounds", that overseas regulators "may also be aware" of substances depending on their development stage, and that many are being trialled internationally to generate efficacy and residue data.

Overseas awareness, experimental use and substantive regulatory assessment are different evidential thresholds.

Faster approval of previously assessed pesticides should therefore be distinguished from authorisation of previously unassessed experimental substances. Regulatory reliance can draw upon an existing evidential dossier and regulatory assessment. Experimental authorisation may instead occur while that evidence is still being generated. Indeed, the applications describe trials intended to generate efficacy, crop-safety and residue data.

For those novel compounds that have not been assessed by an overseas regulatory authority, there is no publicly available evidence of a comprehensive assessment addressing human toxicology, operator and worker exposure, environmental fate and degradation, metabolites and transformation products, groundwater exposure, ecotoxicology and effects on non-target organisms.

For example, the legally binding European Commission Regulation (EU) No 283/2013: Data requirements for active substances would require the following information:

- Identity and physicochemical properties
- Methods of analysis and monitoring
- Human toxicology and metabolism, including absorption, distribution, metabolism and excretion; acute, short- and long-term toxicity; carcinogenicity; reproductive and developmental toxicity; neurotoxicity and endocrine effects
- Residues, including metabolites and degradation products in food and feed
- Operator, worker, resident and bystander exposure
- Environmental fate and behaviour, including degradation, transformation products, persistence and movement through soil, water, sediment and air
- Groundwater contamination
- Ecotoxicology, including birds, mammals, aquatic organisms, bees and other arthropods, soil organisms, plants and other non-target organisms
- Effects from single, prolonged or repeated exposure, including direct and indirect, reversible and irreversible effects
- Impacts upon biodiversity and ecosystems.

Regulation 283/2013 includes requirements for analytical methods for active substances and relevant metabolites in body fluids and tissues, including methods relevant to operator, worker, resident and bystander exposure studies. (Page 20/84)

This illustrates an important regulatory distinction – evident in Europe but not in New Zealand - between assuming that protective controls will prevent harmful exposure and having the scientific capability to measure exposure where it occurs.

OIA REQUEST

To minimise search and collation, please limit this request to records held by the WorkSafe staff responsible for hazardous-substance or occupational-health matters and to substantive correspondence with EPA, MPI, Syngenta or Corteva concerning APP205201 or APP205221. Routine administrative correspondence and duplicates may be excluded.

1. WORKSAFE INVOLVEMENT

Please provide any substantive correspondence, advice, referral or assessment held by WorkSafe concerning worker exposure or occupational-health risks associated with APP205201 or APP205221.

Please identify the WorkSafe official(s), if any, who considered either application and confirm whether WorkSafe was provided with the identities, hazard information or Safety Data Sheets for the experimental substances before EPA approval.

2. WORKER PROTECTION & MONITORING

Please provide any records held by WorkSafe concerning:

(a) occupational exposure risks associated with mixing, loading, application, re-entry or handling treated plants, soil or equipment;

(b) the adequacy of PPE, ventilation, decontamination or other exposure controls;

(c) applicable workplace exposure standards, biological exposure indices or other exposure limits;

(d) whether personal exposure monitoring, biological exposure monitoring or worker health monitoring was considered necessary or appropriate; and

(e) whether any pre-exposure baseline biological or health measurements were considered necessary to enable subsequent changes in exposure biomarkers or relevant biological parameters to be identified.

For novel substances for which no established exposure standard, biological exposure index or validated biomarker exists, please provide any existing record addressing how occupational exposure or emerging adverse health effects would be detected.

3. REGULATORY RESPONSIBILITY

Please provide any existing WorkSafe policy, guidance or assessment identifying which agency is responsible for determining, before approval or commencement of a trial, whether worker

exposure to experimental pesticides is adequately characterised, and how WorkSafe is notified where experimental substances lack established occupational exposure standards, validated biomarkers or health-monitoring methods.

If WorkSafe holds no substantive information responsive to any component above, please simply confirm that no such record is held.