

### Pesticide additional information for RFI

In 2022 VSL carried out water testing for 88 pesticides (and breakdown products combined) as listed on the Plant Protection Product Lists (PPPLs) for that year. PPPLs are approved twice a year – once for the UK in February for the growing season May to October; and once for the EU in September for the growing season October to May.

PPPLs are checked for changes from the previous year's approved PPPLs. Changes are mainly due to either products being revoked, or new products being registered. New pesticides are highly scrutinised for their impact on the environment so it is unlikely that any new registered products to market will be impactful to water.

### Degradation Products

As well as pesticides, some metabolites of those pesticides (degradation products) have also been analysed due to their characteristics they too could have an impact the water environment. These are:

Pesticide	Breakdown product	Approved in 2023?
bupirimate	bupirimate product; ethirimol	Yes
Flonicamid	flonicamid product – TFNA flonicamid product - TFNG	No
fosetyl aluminium	fosetyl-aluminium product - phosphonic acid	Yes
propamocarb hydrochloride	propamocarb as a breakdown product	Yes
Spirotetramat	Spirotetramat product - spirotetramat enol	Yes
thiophanate-methyl	Thiophanate-methyl product - carbendazim	No

### Updated PPPL list

The table below provides an updated list clarifying which pesticides are currently approved for use and which have been withdrawn from use.

New 2024 (UK), 2023/24 EU	Removed since end 2022
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VSL PPPL 2024 (UK) 2023/24 EU	VSL PPPL 2022	Type	hazardous / non-hazardous (JAGDAG)
abamectin	abamectin	Insecticide	
acetamiprid	acetamiprid	Insecticide	
acibenzolar-S-methyl	acibenzolar-S-methyl	Fungicide	
Ametoctradin		Fungicide	
Amisulbrom		Fungicide	
	acrinathrin	Insecticide	
Avermectin		Insecticide	
azadirachtin A	azadirachtin	Insecticide	
azoxystrobin	azoxystrobin	Fungicide	
benfluralin	benfluralin	Herbicide	Non-hazardous

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Benthiavalicarb		Fungicide	
Bifenazate		Insecticide	
boscalid	boscalid	Fungicide	
bupirimate	bupirimate and bupirimate product; ethirimol	Fungicide	
chlorantraniliprole	chlorantraniliprole	Insecticide	
Clethodim		Herbicide	
	chloridazon		
chlorothalonil	chlorothalonil	Fungicide	
	chlorpropham		
	chlorpyrifos		
	clofentezine		
clomazone	clomazone	Herbicide	
Cyantraniliprole		Insecticide	
	cyazofamid	Fungicide	
cycloxydim	cycloxydim	Herbicide	Non-hazardous
cyflufenamid	cyflufenamid	Fungicide	
cymoxanil	cymoxanil	Fungicide	
cypermethrin	cypermethrin	Insecticide	Hazardous
cyprodinil	cyprodinil	Insecticide	
deltamethrin	deltamethrin	Insecticide	Hazardous
difenoconazole	difenoconazole	Fungicide	Hazardous
	diflubenzuron		
dimethenamid-P	dimethenamid-P	Herbicide	
dimethomorph	dimethomorph	Fungicide	Hazardous
	emamectin benzoate	Insecticide	
etofenprox	etofenprox	Insecticide	
	etoxazole	Insecticide	
Eugenol	None	Fungicide	
	famoxadone	Fungicide	
	fenamidone		
fenhexamid	fenhexamid	Fungicide	
fenpyroximate	fenpyroximate	Acaricide	
	Flonicamid; flonicamid product - TFNA ; flonicamid product - TFNG	Insecticide	
fludioxonil	fludioxonil	Fungicide	
Flumioxazine		Herbicide	
fluopicolide	fluopicolide	Fungicide	
fluopyram	fluopyram	Fungicide	
Fluoxastrobin		Fungicide	
Flupyradifurone		Insecticide	
fluxapyroxad	fluxapyroxad	Fungicide	
folpet	folpet	Fungicide	
fosetyl-aluminium	fosetyl aluminium; fosetyl-aluminium product; phosphonic acid	Fungicide	Non-hazardous
	imazalil		
	imidacloprid		

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indoxacarb	indoxacarb	Insecticide	
Isopyrazam		Fungicide	
Lambda-Cyhalothrin	cyhalothrin-lambda	Insecticide	Hazardous
lenacil	lenacil	Herbicide	Non-hazardous
	malathion		
mancozeb	mancozeb	Fungicide	Non-hazardous
mandipropamid	mandipropamid	Fungicide	
metalaxyl-M	metalaxyl	Fungicide	Non-hazardous
	metamitron	Herbicide	
methoxyfenozide	methoxyfenozide	Insecticide	
metrafenone	metrafenone	Fungicide	
	myclobutanil		
napropamide	napropamide	Herbicide	Non-hazardous
penconazole	penconazole	Fungicide	
pendimethalin	pendimethalin	Herbicide	Non-hazardous
Penthiopyrad		Fungicide	
piperonyl butoxide	piperonyl butoxide	Insecticide	
pirimicarb	pirimicarb	Insecticide	Non-hazardous
propamocarb hydrochloride	propamocarb-HCl	Fungicide	Non-hazardous
propamocarb		Breakdown product	
propaquizafop	propaquizafop	Herbicide	Hazardous
propyzamide	propyzamide	Herbicide	Hazardous
prosulfocarb		Herbicide	
pyraclostrobin	pyraclostrobin	Fungicide	Non-hazardous
pyrethrins	pyrethrins	Insecticide	
pyrimethanil	pyrimethanil	Fungicide	
pyriproxyfen	pyriproxyfen	Insecticide	
quizalofop-P-ethyl	quizalofop P	Herbicide	
S-Metolachlor		Herbicide	
spinosad	spinosad	Insecticide	
spiromesifen	spiromesifen	Insecticide	
spirotetramat	spirotetramat	Insecticide	Hazardous
	Spirotetramat product: spirotetramat enol		
Sulfoxaflor		Insecticide	
	tebufenozone		
	tebufenpyrad		
	tefluthrin	Insecticide	
	thiacloprid	Insecticide	
	thiamethoxam	Insecticide	
	thiophanate-methyl; Thiophanate-methyl product: carbendazim		

trifloxystrobin	trifloxystrobin	Fungicide	
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### **Analytical techniques**

The analytical technique used by FERA laboratories in 2022 to measure the concentrations reported for each pesticide and the FERA Statement on analysis are provided in 015 FERA Methodology.