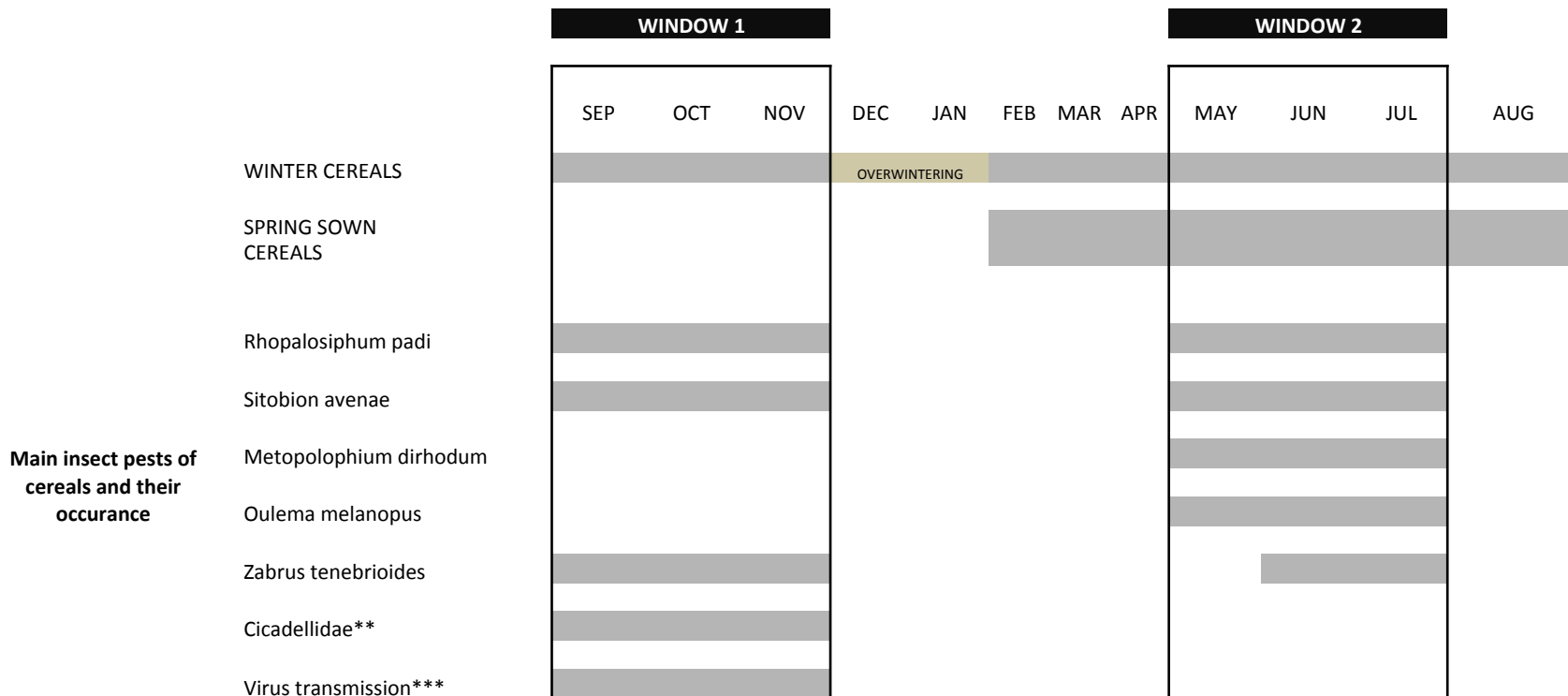


Two main periods when insect pests of cereals may require insecticide treatment:

Window 1: Autumn-Winter = Protection of early growth stages of winter cereals

Window 2: Spring-Summer = Protection of mature plants and grains



** Cicadellidae (*Psammotettix alienus*, etc.)

*** Some countries need specific registrations: e.g. using products against aphids as virus vectors (which can be different from products against aphids causing sucking damage)

Insecticide resistance management recommendations for insect pests of cereals in Europe

Limited range of insecticide modes of action available in Europe, with the risk of using same insecticides consecutively against the same pests = resistance risk.

		WINDOW 1					WINDOW 2						
		SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
WINTER CEREALS					OVERWINTERING								
SPRING SOWN CEREALS													
Rhopalosiphum padi													
Sitobion avenae													
Metopolophium dirhodum													
Oulema melanopus													
Zabrus tenebrioides													
Cicadellidae													
Virus transmission													
Insecticide options (Not all options available in all countries)	Seed/Soil applied insecticides:	OP & Carbamates, Group 1 NACHR agonists, Group 4											
	Foliar applied insecticides:	Pyrethroids, Group 3								OP & Carbamates, Group 1 Pyrethroids, Group 3 NACHR agonists, Group 4 Flonicamid, Group 29			
										See note 1			

See note 1

NOTE 1: Pre-mixture combinations of the available mode of action may be registered for use in some countries. In this case the recommendation to rotate different modes of action remains.

WINDOW 1: Autumn-Winter

- If a foliar pyrethroid was used during the previous summer for the control of aphids, avoid using a foliar pyrethroid again in the autumn if possible.

WINDOW 2: Spring-Summer

- If more than one insecticide application is required, do not use the same mode of action consecutively.
- If leaf beetles are a common occurrence in your region, then it is recommended to reserve pyrethroid treatments for controlling this pest and use alternate modes of action for controlling aphids.

GENERAL

RECOMMENDATIONS

- If pyrethroid resistant grain aphids (*Sitobion avenae*) are known to be present at the location, the use of pyrethroid insecticides is not recommended (Group 3).
- Manage volunteer cereals (e.g. plowing, herbicides application) to break the “green bridge” between summer cereals and new sowings in autumn.

Examples of application strategies that comply with IRAC resistance management recommendations:

