Version 1, June 2016

IRAC

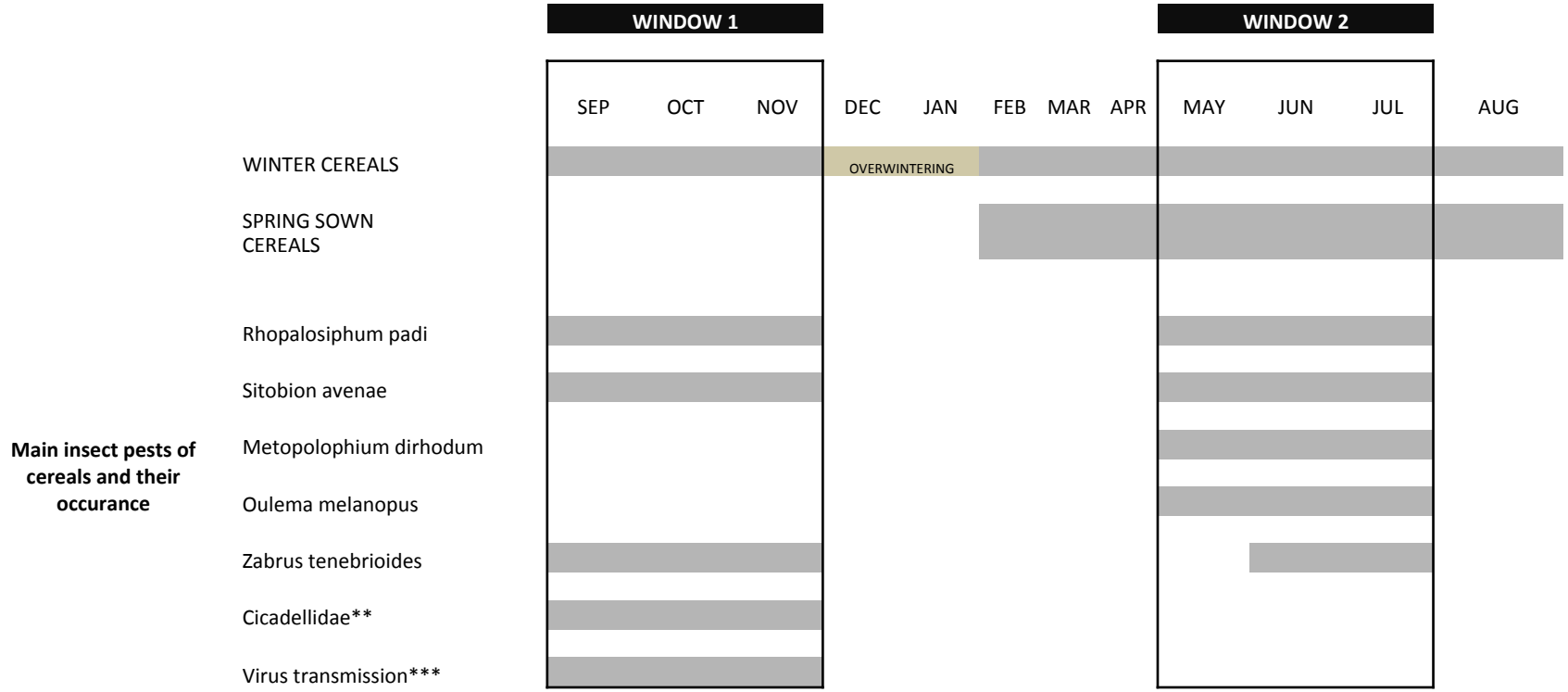
Insecticide Resistance Action Committee

Insecticide resistance management guidelines for insect pests of cereals in Europe

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

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

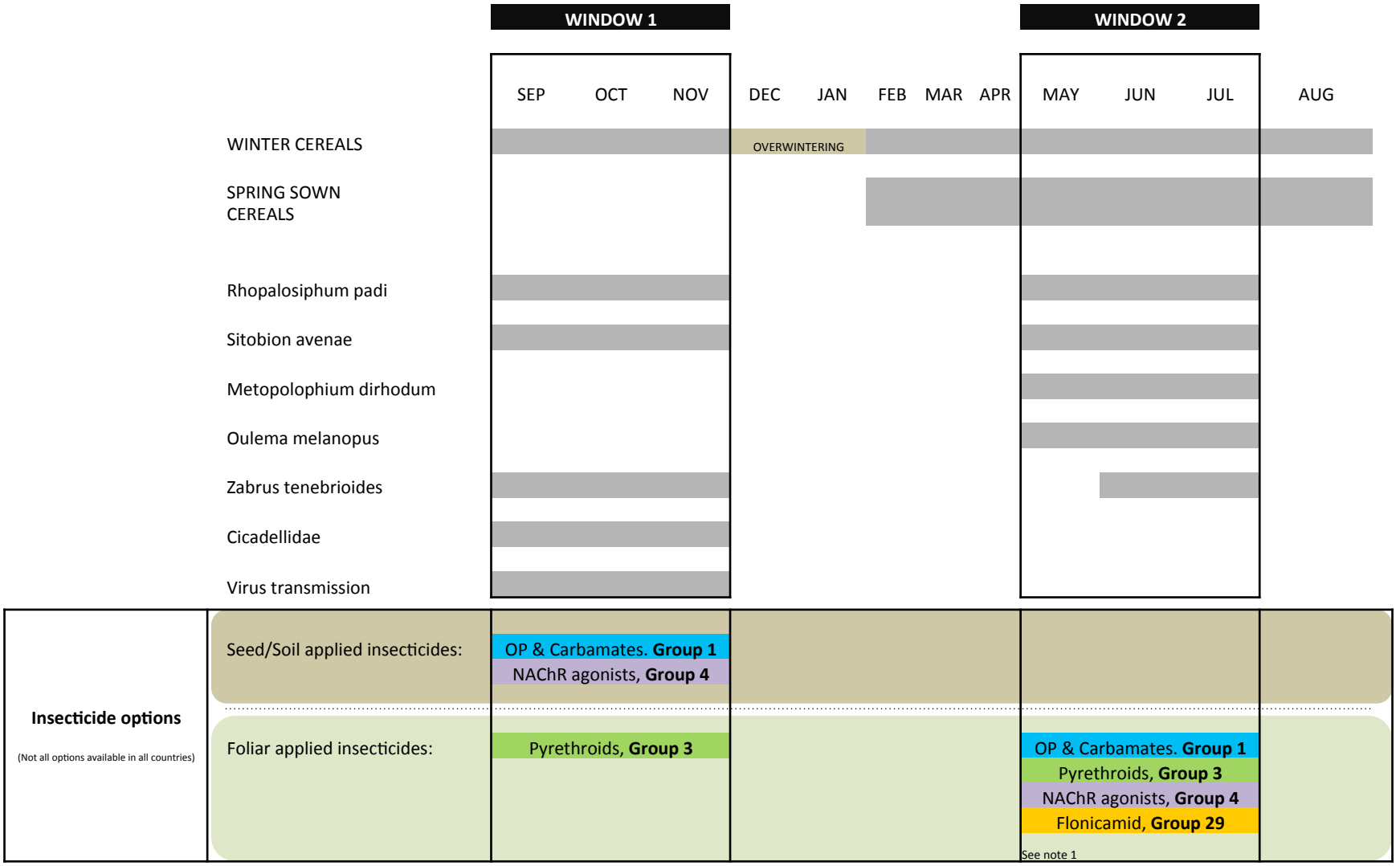
Window 2: Spring-Summer = Protection of mature plants and grains



** 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)

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



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: