



**NAPPO**

ORGANISATION NORD-AMERICAINE POUR LA PROTECTION DES PLANTES  
NORTH AMERICAN PLANT PROTECTION ORGANIZATION  
ORGANIZACION NORTEAMERICANA DE PROTECCION A LAS PLANTAS

## PEST FACT SHEET

### *Agrostemma githago* L.

A native of Eurasia and widespread throughout Canada and the US but considered absent in Mexico, *Agrostemma githago* is generally a weed of roadsides and although once extremely well adapted to, and a problem, in cereal grains, it is now only rarely found associated with agriculture. Having been introduced into cereal growing regions throughout the world along with poorly cleaned seed, the weed has become broadly naturalized and is now nearly world-wide in distribution. However, modern seed cleaning techniques and farming methods have virtually eliminated this pest from the seed system.

**Preferred Scientific Name** *Agrostemma githago* L.

**Other Scientific Names** *Agrostemma hirsuta* Stokes  
*Agrostemma nicaeensis* (Link) Pers.  
*Githago nicaeensis* Link  
*Githago segetum* Link  
*Lychnis agrostemma* Ledeb.  
*Lychnis githago* (L.) Scop.  
*Lychnis segetum* Lam.

**Common Names** English - Corn cockle, corncockle, common corn cockle, purple cockle, corn campion, corn-campion, corn-pink, corn rose  
French - agrostemme, agrostemjme githago, agrostemme nielle, agrostemma a savon, attrappe-mouche de nuit, couronne des bles, fleur de coucou, grasse, gerzeau, lychnide, lacinee, lychnide nielle, nielle, nielle des bles, nielle des champs

#### Habitat

A native of Eurasia and introduced into Canada and the US, *A. githago* is generally a weed of roadsides but is considered a rare invader of winter wheat and rye.

#### Distribution List

##### Asia

Iran (Holm *et al.* 1979)  
Iraq (USDA, ARS 2003)  
Isreal (Holm *et al.* 1979)  
Japan (Holm *et al.* 1979)  
Jordan (Holm *et al.* 1979)  
Kazakhstan (USDA, ARS 2003)  
Korea (Holm *et al.* 1979)  
Kyrgyzstan (USDA, ARS 2003)  
Lebanon (USDA, ARS 2003)  
Syria (USDA, ARS 2003)  
Tajikistan (USDA, ARS 2003)  
Turkey (USDA, ARS 2003)  
Turkmenistan (USDA, ARS 2003)

##### Europe

Albania (USDA, ARS 2003)  
Austria (Holm *et al.* 1979)  
Belarus (USDA, ARS 2003)  
Belgium (USDA, ARS 2003)  
Bulgaria (USDA, ARS 2003)  
Czechoslovakia (USDA, ARS 2003)  
France (USDA, ARS 2003)  
England (Holm *et al.* 1979)  
Germany (Holm *et al.* 1979)  
Greece (Holm *et al.* 1979)  
Hungary (Holm *et al.* 1979)  
Ireland (USDA, ARS 2003)  
Italy (Holm *et al.* 1979)  
Lithuania (USDA, ARS 2003)  
Moldova (USDA, ARS 2003)  
Netherlands (USDA, ARS 2003)  
Norway (Holm *et al.* 1979)  
Poland (Holm *et al.* 1979)  
Portugal (Holm *et al.* 1979)  
Romania (USDA, ARS 2003)  
Russian Federation - European part (USDA, ARS 2003)  
Spain (Holm *et al.* 1979)  
Sweden (Holm *et al.* 1979)  
Switzerland (USDA, ARS 2003)  
Turkey (Holm *et al.* 1979)  
Ukraine (USDA, ARS 2003)  
United Kingdom (USDA, ARS 2003)  
Yugoslavia (USDA, ARS 2003)

#### **Africa**

Algeria (USDA, ARS 2003)  
Libya (USDA, ARS 2003)  
Morocco (Holm *et al.* 1979)  
South Africa (Holm *et al.* 1979)  
Tunisia (Holm *et al.* 1979)

#### **North America**

Canada (Holm *et al.* 1979)  
(NS, PE, NB, QU, ON, MB, SK, BC - (Crompton *et al.* 1988)  
AB (Scoggan 1979, provincial floras)

USA (Holm *et al.* 1979)  
all the US states (including Alaska) except NV, UT, CO, AZ and HI (USDA, NRCS. 2002).

#### **South America**

Argentina (Holm *et al.* 1979)  
Chile (Holm *et al.* 1979)  
Uruguay (Holm *et al.* 1979)

#### **Oceania**

Australia (Holm *et al.* 1979)

#### **Distribution Notes**

Hanf (1983) lists this plant as being distributed throughout Europe and having been introduced into cereal growing regions throughout the world along with poorly cleaned seed. The weed has become broadly naturalized and is now nearly world-wide in distribution (USDA, ARS 2003).

Darbyshire (2003) regards this species as “rare in cultivated fields” in Canada, more likely to be found along roadsides and in disturbed habitats.

No records have been located for this weed in Mexico.

## **Biology and Ecology**

An annual (sometimes biennial) reproducing only by seed, *Agrostemma githago* flowers from June to September in Canada (Alex 2001). Approximately 200 seeds (Hanf 1983) having little or no innate dormancy and being short lived (Holzner and Numata 1982), are produced by a single plant. Germinating usually in the autumn and overwintering as a sparsely-leaved rosette, this former serious pest probably originated from the Near East.

Today the plant is generally not considered a problem on arable lands and it does not seem to flourish as a wild plant outside cereal fields (Hanf 1983). The plant is an example of complete adaptation as a consequence of human activity. Seeds are harvested with the crop (cereal grains) and can be re-sown, germinating immediately upon entering the ground, similar to cultivated plants. However, with modern seed cleaning techniques this weed has virtually disappeared from cereal rotations.

## **Economic Impact**

Although once considered a serious problem in field grains, *Agrostemma githago* is now considered a very minor pest.

## **Morphology**

*Agrostemma githago* is an annual Eurasian plant with purplish flowers and a prominently ribbed calyx and fully developed hairy stems with swollen nodes, ranging from 30 - 120 cm high. Leaves are opposite (2 per node), stalkless, linear to lance shaped, 5 - 13 cm long, narrow and silky hairy. Flowers are large, showy purple or purplish-red on long stalks, the five green sepals united for 1/3 - 1/2 of their length forming a calyx tube. The flower has 5 large spreading purple or purplish-red petals; the mature seedpod inside the calyx is smooth, hairless and orange-brown and opening with 4 or usually 5 teeth at the top. Seeds are purplish-black, rounded angular, about 3 mm across and densely covered with tiny sharp bumps with black spots and as the seedpod expands inside the calyx tube, it emphasizes the 10 prominent hairy green, lengthwise ribs on the calyx tube (Alex 2001).

## **Control**

### Cultural Control

Firbank (1988) describes how *A. githago* was once considered a common weed in British grainfields but is now virtually extinct due to changes in seed cleaning techniques. Where the weed once benefitted from continual reintroduction to fields with sowing grain, modern farming methods have eliminated this pest from the seed system. The species developed an extreme adaptation to cereal grains in England becoming approximately the same height of mature grain. The plant has seeds of similar size and weight of cereal grains and, ripening at harvest time, it could not be separated from them by simple means. Unlike most weeds, the seeds have almost no dormancy at all (in fact, they are short lived) and were capable of germinating almost immediately when sown with the grain in the fall. As the winter grains plants developed, this associated weed adapted to human manipulation and developed a resistance to mechanical weeding and frosts. As a consequence, the plant was at one time able to attain field densities of 50 plants / m<sup>2</sup>. In such situations the contaminated cereal grains, when processed for human consumption, led to many human poisonings due to the presence of saponins. However, in a remarkable contrast, modern seed cleaning techniques virtually eliminated this pest within a few years (Holzner and Numata 1982).

Once a common weed in in Southern Ontario in the days of horse drawn farm implements, *A. githago* has largely disappeared. Although considered to be a rare problem, the weed will appear occasionally in cultivated situations, especially fall-sown crops such as rye and wheat in the central and southern parts of Ontario. Its seeds are known to be poisonous to livestock and fowl and should therefore be cleaned from feedstuffs (Alex 2001).

## References

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