# BIOLOGYANDECOLOGYOFEURYGASTERINTEGRICEPSPUTON, COMMONINWHEATAGROCENOSIS

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**Abstract:** This article examines the biology and ecology of *Eurygaster integriceps* Puton (commonly known as the Sunn pest), one of the most destructive insect pests in wheat agroecosystems. The study discusses the pest's life cycle, morphological characteristics, seasonal development, overwintering behavior, feeding habits, and ecological adaptations. Particular attention is given to the influence of environmental factors such as temperature, humidity, and agricultural practices on population dynamics. The article also analyzes the economic damage caused by *E. integriceps* to wheat production and emphasizes the importance of integrated pest management (IPM), including biological, cultural, and chemical control measures, for sustainable crop protection and improved wheat yield.

**Keywords:** *Eurygaster integriceps*, Sunn pest, wheat, agroecosystem, biology, ecology, life cycle, population dynamics, integrated pest management (IPM), wheat pests, crop protection, biological control, agricultural entomology, overwintering, pest management.

**Introduction**.

On Earth, climate change, various disasters, water shortages, and droughts make it difficult to grow food every year. The rapid growth of the population in recent years has made the situation even worse. Therefore, the demand for grain products is increasing. In our country, in 2022, scientifically based work was carried out to achieve high productivity in the cultivation of grain crops. Below we will talk about the work carried out in our country to protect grain crops from various pests and diseases. Today, the most urgent problem is meeting the needs of the world's population for food. Biology: Eurygaster integriceps Put is a representative of the Hemiptera family. The height of the harmful wasp is 10-12 mm, the color of the body is yellow or yellowish-gray with a marble pattern on the surface. There are two leaking spots on the bottom of his shield. Eggs are barrel-shaped, greener in color, 1.0-1.1 mm in size. Hatched larvae are almost semi-round in shape, yellowish-brown in color, but become elongated and slightly pale as they grow. From the second age, stink glands begin to develop in larvae. After passing the fifth age, it becomes an adult insect. Egg-laying begins in April. Eggs are usually laid in two rows of 7. She lays her eggs near the leaf band andthegrowthconeofthe stem. One female wasp lays anaverageof 35-40 or even

up to 150 eggs. Distribution: Harmful isp spreads over large areas in all grain-growing countries, including Russia, Kazakhstan, Ukraine, China, USA, India, Canada and other countries. damage has been delivered and is coming. According to Internet data, Russia is the largest wheat exporting country in the world. Ukraine ranks fifth in this regard. Its share of world wheat exports is 30%. The price rose another 6% after India announced a freeze on exports due to severe drought.

Fertility depends both on tabiotic conditions and on the developmental phase of cereals during the feeding period of the bugs. Laying lasts 30-50 days.

The duration of egg development is 6-28 days. The development of larvae of 5 instars takes place within 20-45 days on grain crops, starting from the plant emerging into the tube until the end of the waxy ripe grain. For development, air temperatures of 20-24°C and precipitation of about 25-35mm per month are optimal. Larvae of 2-3 instars are characterized by a light abdomen and dark head and chest. In larvae of the 4th instar, the rudiments of the fore wings are visible, and in the larvae of the 5th instar, the hind wings are also clearly visible.

**Conditions of appearance.**

1st generation is developing. Adults become active when the leaf litter of trees and shrubs, where they overwinter, warms up to 12-13°C; flights to fields begin at an average daily temperature of 12-14°C. Fledging usually coincides with the waxy ripeness of the crop on which the species developed. If the development of the insect does not finish before harvesting, the larvae and young adults feed under windrows or on fallen ears of grain. Having finished their fattening feeding, the bugs fly off to wintering in tree plantations, less often they lie among tall weeds in ditches, on unused lands, and in fields.

**Economicimportance.**

A widespread pest of cultivated cereal plants, especially winter and spring wheat, and partly barley and oats. May also damage corn and millet. In addition, it feeds on various cereal grasses and the contents of the seeds of many dicotyledons, and occasionally even trees (maple, ash, etc.). Protective measures: early spring feeding of winter crops with mineral fertilizers followed by harrowing, early sowing; harvesting grain crops in early and short periods, followed by peeling and fall plowing, selection of resistant varieties; spraying crops with insecticides against younger larvae.

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