

APPLICATION IN VINICULTURE

(in production of **grape** and **grapevine seedlings** and in **rootstocks nursery**)

a) Application in grape production

For a number of years **AGROSTEMIN**[®] has been successfully applied in the production of wine and table grapes, particularly varieties such as Muscat Hamburg, Cardinal, Afuz-Ali, Black Burgundy, Rkatsiteli, Gamay black, Merlot, Cabernet Franc, etc.

AGROSTEMIN[®] influences the following features:

- Fruit-bearing potential and grape yield
- Mechanical features of grapes and berries
- Chemical characteristics of grape juice (sugar content, total acid content, anthocyanin content, etc.).

Depending on agricultural and environmental conditions of the site and the quantity applied (30 to 45 g/ha of **"gold"** or 300 to 450 g/ha of **"green"**), natural biostimulant **AGROSTEMIN**[®] increases the grape yield from **10 to 30%** on an average.

Many years of research have shown that biostimulant has the most efficient influence if it is applied three times in certain phenostages of grapevine or grape variety development:

- 10 days prior to grapevine blossoming,
- 10 days after the grapevine blossoming, and
- 10 days prior to grape veraison (before appearance of colour)

This triple application **results in**:

- Grape mass increase;
- Grape mass increase;
- Increase of mass and size of berries;

Table of **AGROSTEMIN[®] application** for achieving the stated (maximum) range of effects:

Treatment	D o s a g e	Phenophases of grapevine development:
First	45 g/ha "gold" or 450 g/ha "green"	10 days prior to blossom
Second	45 g/ha "gold" or 450 g/ha "green"	10 days after the blossom
Third	45 g/ha "gold" or 450 g/ha "green"	10 days before the colour appears
Total:	135 g "gold" or 1 350 g "green"	per season per vineyard ha

How to prepare the solution:

*For one hectare of vineyard, pour 45 g (**"gold"**) or 450 g (**"green"**) preparation into the container with 5-6 l of pure tap or spring water heated to 50-60 degrees Celsius. This mixture should be stirred intensively for 5-10 minutes. After that the solution is poured into previously prepared solution of substances used to protect grapevine from diseases and pests and it is again stirred intensively for 10 minutes. After that the solution of biostimulant and substances for protection of grapevine from diseases and pests is ready for use.*

For the area less than one hectare, proportionally smaller quantity of preparation and solution is applied. **AGROSTEMIN**[®] can be used simultaneously with substances for foliar reinforced nutrition of grapevine. Considering the strict application of the biostimulant in a certain phenostage of grapevine development, which does not coincide always with the time of application of agents for protection from diseases and pests, in this case only the solution of **AGROSTEMIN**[®] is applied without any other substances/preparations.

b) Application in production of grapevine planting material

AGROSTEMIN® should be applied in order to increase the percentage of I class grapevine grafts (up to 10%), whereas the development of organs and grafts is more powerful.

AGROSTEMIN® is applied on foliage, i.e. by spraying foliage in grapevine rooting nursery for three times:

Treatment	D o s a g e	Phenostage of graft development
<i>First</i>	45 g/ha "gold" or 450 g/ha "green"	when there are 5-6 leaves developed at the shoot
<i>Second</i>	45 g/ha "gold" or 450 g/ha "green"	10 days after the first application of preparation
<i>Third</i>	45 g/ha "gold" or 450 g/ha "green"	10 days after the second application of preparation
Total:	135 g "gold" or 1 350 g "green"	in season, per vineyard hectare

For a smaller area proportionally smaller quantity of solution and proportionally smaller dosage of preparation is used. The **preparation** is made in the same way as for grape production, whereas it can be combined with liquid fertilizers or with agents for protection of grafts from diseases and pests.

c) Application in grapevine rootstock nursery

The application of **AGROSTEMIN**® in grapevine rootstock nursery influences positively both the growth and better lignifications of shoots which is, however, an important precondition to reveal affinities and increase percentage of the I class grafts. The yield of seedlings can be increased by **10-20%**.

The application of **AGROSTEMIN**® is particularly recommended for the nurseries where grapevine is grown without supports since these often reveal a problem of successful lignifications of shoots as primary products in the production of grafts.

The **period** of application, the **dosage** of preparation and the **preparation** of solution is the same as for viniculture, i.e.: 10 days prior to blossoming, 10 days after the blossoming and 10 days prior to veraison (the onset of ripening). Any known European grapevine variety, such as for instance Italian Risling, Muscat Hamburg, etc. can be taken as indicating variety.

FACSIMILE
 dr Laza Avramov

COMPLETELY HARMLESS FOR PEOPLE, ANIMALS (INCLUDING BEES) AND ENVIRONMENT;
 IT DOES NOT REQUIRE SPECIAL SAFETY MEASURES OF HYGIENIC AND TECHNICAL PROTECTION *)

Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia
 Decision № 321-01-01175/2009-11 dated February 08, 2010

*) Decision №.3/2-08-9291/02 from 13.01.03. of Ministry of Labour, healthcare and social welfare of Federal Republic of Yugoslavia