Asian Journal of Multidimensional Research
ISSN: 2278-4853 Vol. 11, Issue 10, October 2022 SJIF 2022 = 8.179
A peer reviewed journal

BIOLOGICAL BASIS FOR PLANT GROWTH AND DEVELOPMENT MANAGEMENT

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DOI: 10.5958/2278-4853.2022.00273.7

ABSTRACT

Without scientific justification of agriculture, it is impossible to provide the national economy with raw materials, humanity with food, and cattle breeding with poultry feed. A lot of funds and technical means are allocated for the development of the agricultural sector in the following years, new scientific foundations of farming and management are being created. As farmers receive permission for self-financing, independent rights and start planning from the bottom, significant shifts are taking place, people receive more income for their work. The availability of conditions for increasing agricultural and livestock production is becoming increasingly widespread, which leads to the fact that the provision of land to farms, the development of new technologies leads to an improvement in the use of land, fertilizers, water and other opportunities. Farms have the opportunity to organize crop care based on new technology and increase the feed base to increase the productivity of animals when it is used in animal husbandry.

KEYWORDS: *Ecology, Plant, Agriculture, Livestock, Organic Compounds.*

INTRODUCTION

We have already said that in accelerated technology, one of the main elements of crop production for growing products are various natural synthesized and artificially produced on an industrial scale hormones for growth control-giberrellin, auxin, ethylene and other so-called "controlling" substances.

Any crop in the field receives a sufficient amount of sunlight, heat, carbon dioxide from the air, and water and nutrients from the soil. Absorbing the above factors, they form complex organic compounds from simple elements, which means that during the growth and development of plants do not increase in size and mass, providing the formation of various levels of matter, forming tissues, cells and new organs. In general, the formation of a new seed consists of a complex of many complex processes that are the result of the interrelation of internal and external factors. In plants, chemical processes serve as an internal factor.

As a result of chemical bonds in plants, hormones are formed that exercise basic control, that is, regulate the processes of growth and development. Harmonics are active even to a very small

extent, the meaning of this word is "to wake up" (to excite), but at present it is also obvious that some harmonics are a slowing factor. The very first of the hormones studied is called auxin.

MAIN PART

In 1881, when the great English scientist Charles Darwin and his son Francis Darwin discovered that fescue grows in the direction of light, in an experiment, the tip of the tumor is illuminated from the side, wearing a light-tight cap in which the tumor did not grow obliquely, unless the lighting was supplied from the side and the tumor growth point was not closed.the tumors grew obliquely towards the light. They came to the conclusion that if there is some kind of stimulus shining next to the tumors, causing them to flow down the three ends, as a result, the tumor bends. The "stimulus " potok pineapple was discovered in 1926 by the Dutch scientist Frins Vent, who cuts the oatmeal into three parts, placing it for an hour in an agar solution (obtained from red algae, a neutral solution is feed). Then the agar is crushed and poured into the darkness along with the cut growths. Within an hour, the tumor was striving for light. Consequently, the tendency (deviation) of the growths to light was a chemical substance, which he called auxin (I grow, I propagate). It was found that this substance accumulates in the apical part of the growths and in the upper growing part of the stem meristem.

In recent years, it has become known that auxin accumulates in young leaves, flowers, fruits, as well as in the pulp. Auxin visualizes the elongation of the host cell, but does not replace the growth of side worms. No, if we cut the plant from the point of growth, the side branches will start to grow quickly. When auxin is applied to the cut stem, the growth of the lateral branches stops. Auxins obtained by the synthesis of the herbicide 2,4-D are widely used in agriculture to destroy weeds.

From such synthetically obtained auxin substances, Alpha-naphthylacetic acid is used to accelerate the extraction of roots from cuttings, reduce the fruiting of fruit trees. This acid, obtained by synthesis, decomposes very quickly under the action of plant enzymes and microorganisms. When processing plants with auxin during flowering (flowering), it is possible to obtain pitted fruits, which is more often observed in seedless tomatoes, cucumbers, eggplants and some grape varieties.

Auxin is formed in the resulting seeds, is also found in leaves, but does not affect their growth. It serves as a means of reducing fruit weaving, but its dosage, which leads to an increase in the ethylene content in the product, enhances fruit weaving[1].

Chemically artificially synthesized auxin is used to kill weeds (phenoxyauxin or 2,4 - D).

Another substance extracted from the plant's body is called cytokinin, which mainly accelerates cell division (from the word cytokinesis, meaning cell division). For the first time, zein (cytokinin) it was isolated from corn grain, now this substance is obtained from most seed plants. By substances, it enhances the growth of sideworms. The harmony of cytokinin (kinetin) helps to keep the chlorophyll substance in the leaf clean, even if this substance puts the torn leaf in water and keeps its green state for a long time. There are still theories that the substance cytokinin accumulates in the places of fruiting, in the roots and in the place of plant growth.

Scientific work in this area continues. In 1901, in St. Petersburg, D. Nelyubov discovered that combustible gases cause the plant to weave a leaf, this gas is called ethylene, which, although

without gas, dissolves in the cytoplasm of the plant, it participates in metabolism with other hormones in the plant. Ethylene contained in plants can also be recognized when it is released from tissues without detecting it in laboratory analysis. Ethylene produces methionine in the plant cell, and the respiration process in the presence of an energy source (ATP) - adenosine methionine[2]. Currently, ethylene is released more in all parts of plants, especially in ripening fruits, accelerating the ripening of raw tomatoes, grapes and other fruits when inhaling this substance from immature ones for food. For the machine harvesting of some fruits (grapes, cherries, berries with strong fruits), a tape is used for softening, as well as for weaving excess leaves, flowers and fruits of plants[3]. Ethylene causes a decrease or increase in the paternal or maternal sex in crops belonging to the pumpkin family (zucchini, cucumbers). For example, in cucumbers, the achene flower secretes more ethylene, while the pumpkin treated with ethylene gives more of the mother flower. In general, ethylene causes both of these plants to produce more mother flowers. Another of the plant hormones, abazizic acid I, was discovered in 1949-1965. If you treat the recorded worm with this acid, it will go into a state of rest, if you spray gibberlin after that, the worm will wake up. In general, olbcisic acid has the opposite effect with auxin.

If you drop a drop of abscisic acid on a tiny leaf, this earth will quickly turn yellow, and the remaining areas will remain green. In the future, this acid can be used in agriculture in arid areas as an agent that will help keep the leaves closed, thereby saving water. There are also suggestions that this acid is formed to a greater extent in thirsty plants. Breeding scientists in Mambo believe that new varieties resistant to dehydration can be obtained if varieties are created that genotypically produce more absinic acid.

One of the substances widely used in crop production is gibberellin, named in 1926 in honor of gibberella, a pathogenic fungus discovered by a Japanese researcher on Kurosov's rice. It was isolated in its pure form in 1930, and in 1956 it was discovered that it is also present in other cultures. Gibberellin is more common in immature seeds, 65 names are known of it, the most studied is gibberellic acid. This substance basically causes the plant to grow in height because it accelerates cell division and elongation in height.

This substance can be used to treat low-growing crops, for example, low-growing varieties of corn, which increases the yield of blue grass. Corn contains nine more substances called gibberillins, which go through several stages before the cultivator gives results. Gibberlinic acid accelerates the germination of seeds, which is especially important for the uniform germination of barley when obtaining beer. In addition, this substance causes the formation of various pitted fruits. For example, apples, currants, cucumbers and pitted eggplants, tangerines and peaches tend to increase in fruit, while almonds tend to increase in fruit if they are sprinkled with gibberlin with a lack of auxin. The following are the chemical properties and physiological effects of phytoharmones found in plants: Auxin - indelyl 3-acetic acid, phanel acetic acid Cytokinin - NB –adenine product, - phenylmachine compound ethylene - SN2-SN2 gibberalin - gibberaline acid (GK3) GK1 Abscisin - ABK acid accelerates stem growth, fruits grow better, leaves longer life provides. Accelerates fruit ripening, leaf aging, accelerates leaf formation. Accelerates the flowering of long-day and biennial plants. the stems become longer, controlling the formation of enzymes in the ears. The lips close, there is a possibility that the organ of the plant is intertwined, in some species it assimilates a state of rest. Accelerates the growth of plant

stems. Phototrodism takes place. They improve conductive tissues, stop weaving, promote the formation of ethylene, increase the size of fruits, accelerate the exit of roots in cuttings.

Consequently, hormones or chemicals contained in plants, called phytohormones, play an important role in plant life, regulating plant growth, moving from one organ to another, as well as having a physiologically active effect.

There are accelerators and growth retarders-gibberellin, Heteroauxin, tur, pix and other substances synthesized from retortants, which are currently used in agriculture in plant-growing industries. Using the example of substances used in production, it can be seen that, depending on the soil and climate, the norms of fertilizers applied, it is possible to change the growth of the plant, its fruits in the desired direction. Thus, for each zone there are special recommendations for the use of certain growth agents or growth retardants[4].

Chlorcholine chloride, which has been used for many years, is used to regulate the growth of plants grown on (cotton, cereals, melons/vegetables), a substance called "Pix" also serves farmers as an additive[5].

Substances created to control plant growth are widely used in various agricultural crops. These substances that slow down or slow down growth, which should be used as one of the main elements of intensive technology, are widely used in grain, vegetable growing, horticulture, seedling cultivation, industrial crops. However, in our republic, this work is not organized in the best way. For example, at a time when chlorcholine chloride (species) is used on tens of millions of hectares in grain farming, we lack attention to it. In subsequent years, scientists recommended this type of drug for use in cotton growing as a substitute for chicane, and also in 1975 it was discovered that this drug could be used against the subsidence of cotton. The drug stops the growth of the plant if it is used with a 0.01- or 0.02-percent aqueous solution (250 grams per hectare), when cotton begins to bloom, since it does not grow along the cells of the growth point, the leaf becomes dark green, the drug provides the formation of an average articulated stem, if sizot waters are used on nearby lands or in areas that are porous when using the wrong technology.

The preparation of the type gives particularly good results when used on wheat, rice, rye and other cereals. This drug can also penetrate into the body of the plant through the leaves and roots. The best result is obtained when sowing long-stemmed varieties, it is best to sow during the harvest and the formation of stems to prevent the settling of wheat and rye. The drug of this type belongs to the so-called retordants, with a good effect from 1 to 8 kilograms per hectare, although long-term data show that the optimal dose is 4 kilograms, but depending on natural and climatic conditions, this dose can be reduced. The effectiveness of the drug depends on the degree of availability of water and nutrients to the plant. For example, increased humidity or more moderate use of nitrogen fertilizers enhance the effect of the species, that is, the plant ceases to grow in height, as joints become shorter and tissue density increases. Wheat yield increases from 3.3 c/ha to 8.7 c/ha, no occurrence is observed. In flour and bread, the content of gluten and protein is increased, experiments have shown that the drug of the type when consumed at a rate of 30 kg / ha is transmitted to subsequent generations, which makes them stunted.

The species affects less water consumption in the plant's body, which means it increases drought

resistance. If wheat seeds are treated with a variety before sowing (10-25 liters per 1 ton, 5-15% solution), this will increase the resistance of the plant to external adverse factors, the treated seeds are sown 3 days earlier, since germination is slightly delayed, but the seeds after germination withstand + 55 degrees celsius[6].

Like medicines of this type, gibberellin, etrel, ethylene solar and other substances are widely used to prevent plant growth, flowering, fruit formation, shedding or weaving of excess. We think that the literature on horticulture and viticulture, as well as vegetable growing, will provide more complete information about them[7].

To the solution, the seeds are treated before planting, creating a thin layer-a veil-on the bark, while the veil protects the seeds from rotting in case of excessive humidity, since it eliminates most fungal diseases. During coagulation, the seeds are poured with boiling water for 5-6 hours, mixed with 3-4 grams of water per hectare of area. It is environmentally friendly.

CONCLUSION

In addition, the substance accelerates the growth and fruiting of cotton, the viscosity decreases slightly, the yield increases by 3-4 hundredweight. If in 1989 the substance was used on 40 thousand hectares, then in 1990 - on 65 thousand hectares. An additional 13 thousand tons of cotton raw materials were collected. based on field experiments, this substance increases the length of the head stem by 5-15 cm, the number of branches by 3-5, the number of fruits by 6-15, the number of stems by 1-2.

In particular, since it provides faster germination of seeds and earlier development of sprouts, it increases resistance to most spring diseases, especially to hemiasis and root rot, which dramatically reduces the incidence.

This substance can be used instead of the "Tegan" substance, because it is cheap, produced here, and "Tegan" is imported.

Carrying out PAV-61 on a wider area showed that the cotton harvest in the Syrdarya region increased by 3 hundredweight, while if it is planted on 150 thousand hectares, it will be possible to get 35 thousand tons of surplus cotton and make a profit of 68 million soums. consequently, it has been confirmed that the use of this substance in cotton production is economically beneficial, now the task is to apply it in all fields.

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