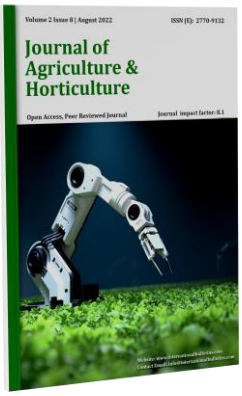

THE ROLE OF DEFOLIANTS IN INCREASING THE AGROCHEMICAL EFFICIENCY OF COTTON

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Abstract: The main direction of the development of the economy of our republic is the rapid development of all sectors and the rapid growth of the national economy on the basis of the acceleration of scientific and technical progress and, on this basis, to achieve further improvement of the economy. Welfare of the people of the Republic of Uzbekistan.

Key words: physicochemical basis, synthesis, theoretical basis, inorganic acids, aminoguanidine, chloroethylphosphoric acid, phosphoric acid, aminoguanidine, guanine, defoliants.

Cotton growing is one of the important branches of agriculture in our country. To date, the most important task of technical progress in cotton farming is mechanized harvest, and cleaning cotton from chemical leaves with the help of chemicals (defoliants) before harvesting plays an extremely important role in its implementation. Without this important agrotechnical event, it is impossible to achieve high productivity of cotton picking machines and success in cotton growing at the current stage of cotton cultivation.

In order to successfully solve the problems of artificial defoliation, it is necessary to have highly effective defoliants that have a "gentle" effect on the plants, ensuring that more than 80% of cotton leaves fall with each treatment. . Not having a negative effect on them, reducing the yield, its quality and oiliness of the seed, as well as not causing clogging of the cotton fiber.

In addition, one of the important indicators of defoliants, which determine the broad direction of practical use of drugs, is their ecological safety from the point of view of environmental protection.

Currently, magnesium chlorate is the main defoliant range used for cotton defoliation in our country. However, the latter does not meet the modern requirements of cotton farming. This is primarily due to the lack of effectiveness of the "hardness" of plant exposure in different soil and climatic conditions. In addition, the low amount of the active substance - magnesium chlorate (34-37%), the presence of ballast salts of sodium and magnesium chlorates, up to 40%, leads to a high level of consumption of magnesium chlorate defoliant. This requires the creation of new effective and gentle defoliants based on magnesium chlorate.

According to modern ideas about the hormonal regulation of leaf fall, ethylene is the main endogenous activator of this process. Leaf fall begins when the level of ethylene and antiauxin compounds exceeds that of axenics. Therefore, it seems promising to use compounds with antiauxin activity as defoliants, as well as compounds capable of degrading ethylene in plants. Such compounds that have an anti-fuchsin effect include various salts of

guanidine and aminoguanidine, and the ethylene producer is 2-chloroethylphosphonic acid. 2-chloroethylphosphonic acid has a number of disadvantages that make it difficult to use in large areas. The main ones are low and unstable efficiency, high level of consumption per unit of cultivated area. Therefore, synthesis of low-impact, soft defoliants based on 2-chloroethylphosphonic acid is one of the urgent tasks of cotton farming.

Taking into account the above, the synthesis and development of defoliants based on the most favorable salts of guanidine and aminoguanidine with magnesium chlorate, 2-chloroethylphosphonic acid and some inorganic acids, in particular, nitric, sulfuric, phosphoric and carbonic acids. interest.

At the same time, the presence of guanidine salt, amipoguanidine in the composition of defoliants can reduce the level of their consumption, reduce the "hardness" of their effect on plants, increase the decoding activity and prevent the secondary growth of cotton leaves. Accelerate the aging process of the plant, stimulate the fall of leaves and bring defoliation closer to the natural processes of leaf fall.

It should be noted that there is no information in the literature on the interaction of components in a complex mutual aqueous system, including guanidine and aminoguanidipine, magnesium chlorate and 2-chlorothylphosonic acid salts in corresponding systems. theoretical basis of synthesis and preparation of effective defoliants.

In view of the above, the purpose of this work is the physico-chemical justification and development of the technology for obtaining defoliants based on 2-chloroethylphosphonic acid, magnesium chlorate, guanidine and aminoguanidine salts.

Study of physical and chemical properties of defoliants based on 2-chloroethylphosphate acid, magnesium chlorate, guanidine and aminoguanidine salts.

It is known that defoliants are used in the form of aqueous solutions. Therefore, by studying the physico-chemical properties of defoliants and their aqueous solutions, it is possible to characterize the actions of the components of defoliants in solutions and determine the optimal periods of preparation and storage of preparations.

It is no exaggeration to say that we noticed that the physico-chemical properties of defoliant solutions have a significant effect on the formation of droplets during spraying, their spread and adhesion to leaves, and their penetration into plant leaves.

In this regard, we determined the pH, density and chlorate ion loss of the working solutions of the proposed defoliants, and their sorption moisture capacity at relative humidity of 60.5 and 81.5% corresponding to the summer and winter periods. we asked The obtained results are presented in Table 1.

In terms of mechanical composition, the soil of the experimental plot is medium soil, long-term irrigation, nutrients humus, lateral nitrogen, potassium and phosphorus are well provided. Agrotechnics at the experimental site corresponds to the generally accepted for the Tashkent region zone.

Table-1.
Physico-chemical properties of aqueous solutions, recommended defoliants

Table 1 shows that the loss of chlorate ion in working solutions of defoliants based on

Medicines	The ratio of mass components,	sorbsion namlik sig'imi				
		In one day	In five days	In ten days	In twenty days	In thirty days
2-aminoguanidine chloroethyl phosphonate	-	5,46	13,38	20,34	22,64	22,68
2-aminoguanidine chloroethyl phosphonate	-	2,31	6,83	11,82	15,45	16,63
2-chloroethyl phosphatic acid + aminoguanidine nitrate	4:2	4,98	8,10	14,22	16,19	16,21
2-Chloroethyl Phosphotic Acid + Aminoguanidine Sulfate	4:2	5,48	7,35	10,39	10,94	10,98
2-chloroethyl phosphoric acid + aminoguanidine phosphate	4:2	4,92	12,21	20,32	22,07	22,23
2-chloroethyl phosphoric acid + carbon dioxide-ly aminoguanidine	4:2	4 %,	12,37	20,41	21,73	21,77
2-Chloroethyl Phosphotic Acid + Guanidine Carbonate	4:2	2,23	4,40	7,10	9,0	12,58
2-Chloroethyl Phosphotic Acid+ Sulf at Guanidine	4:2	2,37	8,30	14,69	21,76	24,34
2-chloroethyl phosphonic acid+guanidine nitrate	4:2	6,04	11,07	15,35	15,72	15,95

magnesium chlorate, guanidine and aminoguanidine salts does not exceed 0.012-0.023% per day of storage after their preparation, and after 5, 10 and 15 days, these data are 0.030, respectively -0.044, 0.145-0.186 and 0.458-0.598%. The obtained data indicate that the working solutions of chlorinated defoliants are sufficiently stable for 5-10 days, which fully corresponds to the terms of their preparation, storage and use.

The pH value of aqueous solutions of defoliants based on magnesium chlorate is 7.15-9.75, and those with 2-chloroethylphosphonic acid are 2.30-2.98, i.e. slightly acidic or slightly alkaline. Therefore, they are better absorbed by plant leaves than defoliants with a neutral environment solution, and there is no need to install special containers or equipment for their preparation, application, and introduction into cotton farming practice.

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