



# INFLUENCE OF STOMP BECK HERBICIDE APPLICATION ON WEEDS, GROWTH, DEVELOPMENT AND YIELD OF COTTON

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**Abstract.** The article provides information on the effectiveness of the herbicide Stomp Beck 33% e.k. when sowing cotton in conditions of typical sierozem soils of the Tashkent region. When using the herbicide Stomp Beck 33% at a rate of 1.35 l/ha, the number of annual weeds is reduced by 86.3-90.7%, favorable conditions are created for the growth and development of cotton and the yield of cotton is increased by 4.1 q/ha.

**Key words:** herbicide, Stomp Beck 33% e.k., weeds, growth and development of cotton, cotton yield.

## 1. INTRODUCTION

Contamination of acorns with annual and perennial weeds is one of the main factors that reduce the amount and quality of the crop. The damage seen when agricultural crops are trapped inside weeds at the beginning of the vegetational period is very large, resulting in adverse weed effects that are also manifested in later phases of the growing season [1,2,3,6,].

Annual and perennial weeds with various biological characteristics grow in Acorn fields. To effectively remove these weeds, it will be necessary to correctly carry out the measures of struggle. In this regard, the measures of the chemical struggle are considered one of the most effective, since there will be an opportunity to ensure that the fields are cleared of weeds in time by applying herbicides on large areas in a short time. It is known that the use of a herbicide in a field for many years in a field leads to the fact that alien species that are resistant to this herbicide gradually increase in size. To prevent this, it will be necessary to alternately apply herbicides with different spheres of influence [7,8,9,10,].

To increase the effectiveness of chemical combat measures, scientists recommend alternating use of herbicides, combined or in advance. [2,3] From this, great attention is paid to the testing of new preparations and the introduction of effective ones into production.

Taking into account the above, we note that in the conditions of Boz soils of the Tashkent region, Stomp Beck is 33% k.e. we aim to study the effect of the use of herbicide in different doses on annual weeds in the Acorn field, on the growth, development and yield of acorns.

## 2. CONDITIONS AND STYLE OF RESEARCH

The field experiment was carried out in the field of acorns in the conditions of oxen soils of the Tashkent region. In this Stomp Beck, 33% e.k. tried at different doses. Variants were placed in 4 iterations. The size of the experimental pieces is 144 m<sup>2</sup>.

B. in the application of experience, observations, calculations and analysis. A. Dosphehov's "methodika polevogo opita" [5]. and the "field experiment methodology developed in the self-report was used[4].

Stomp, 33% e.k., Stomp Beck, 33% e.k. the seeds were sprinkled along with the planting in a tape method. Water consumption is 200 l/ha.

Table 1.  
Experimental scheme.

| №  | Various                    | Herbicide norm,<br>l / ga |
|----|----------------------------|---------------------------|
| 1. | Control, without herbicide | -                         |
| 2. | Stomp, 33% e.k.            | 1,5                       |
| 3. | Stomp Beck, 33% e.k.       | 1,0                       |
| 4. | Stomp Beck, 33% e.k.       | 1,35                      |
| 5. | Stomp Beck, 33% e.k.       | 1,75                      |

### 3.RESEARCH RESULTS

**3.1.Effects of herbicides on weeds.** In our scientific research work, we found Stomp Beck in the Acorn Field, 33% e.k. we conducted experiments to determine the favorable norm of herbicides and determine the effectiveness of its application.

We see a significant decrease in the number of weeds in the variants in which herbicides are used (Table 2). For example, the control variant had an annual weed count of 36.5 PCs/m<sup>2</sup>. Stomp, 33% herbicide in the 1.5 l/Ga norm variant, had a weed count of 4.55 PCs/m<sup>2</sup>. The number of weeds in this variant was 32.0 units less than in the control variant. Stomp Beck, 33% herbicide was 5.75 PCs/m<sup>2</sup> in the variance applied to 1.0 l/Ga norm, the number of weeds was 30.8 PCs less in this variant than in the control variant. Stomp Beck, 33% herbicide in the 1.35 l/ga norm variant had a weed count of 3.40 PCs/m<sup>2</sup>, compared to 2.80 PCs/m<sup>2</sup> in the 1.75 l/ga norm option. The number of weeds in these variants was 33.1 - 33.7 - PCs/m<sup>2</sup> less than in the control variant.

In 2021, Stomp reduced annual weeds by 82.2-84.2%, when the Beck herbicide was applied in the 1.0 L/ga norm. Stomp Beck herbicide, when applied in the 1.35 l/ga norm, provided an 87.5-90.7% loss of annual weeds, and 18.2 – 21.4% loss of perennial weeds. This provided 90.0-92.3% loss of annual weeds, 19.5 – 22.5% loss of perennial weeds when the herbicide was applied at a norm of 1.75 l/ha.

In 2022, similar data were obtained from Stomp Beck herbicide which, when applied in a 1.35 l/ga norm, provided an 86.3 - 88.8% loss of annual weeds, and a 16.3 – 18.8% loss of perennial weeds (Table 3

This provided an 88.9 - 90.3% loss of annual weeds, and a 18.6 – 20.0% loss of perennial weeds when applying the herbicide in a 1.75 l/ga norm.

Table 3.  
The effect of herbicide application on weeds (2022.)

| №  | Annual weeds |      |         |      | Perennial weeds |      |         |      |
|----|--------------|------|---------|------|-----------------|------|---------|------|
|    | Score 1      |      | Score 2 |      | Score 1         |      | Score 2 |      |
| 1. | 38,7         | -    | 29,3    | -    | 4,00            | -    | 4,30    | -    |
| 2. | 5,25         | 86,4 | 4,50    | 84,6 | 3,25            | 18,8 | 3,70    | 14,0 |
| 3. | 6,40         | 83,5 | 5,50    | 81,2 | 3,60            | 10,0 | 3,90    | 9,30 |
| 4. | 4,35         | 88,8 | 4,00    | 86,3 | 3,25            | 18,8 | 3,60    | 16,3 |
| 5. | 3,75         | 90,3 | 3,25    | 88,9 | 3,20            | 20,0 | 3,50    | 18,6 |

### 3.2. Growth and development of acorns when applying herbicides

Herbicides can also affect the plant being protected because they are physiologically active substances. The literature provides information that chemical preparations do not adversely affect the gout in the optimal norm[ 9,10 ].

Data obtained on the dynamics of pollen germination have shown that the use of herbicides does not adversely affect the germination of pollen. In the last days of observations, it was found that the number of sprouts was slightly higher in experimental options compared to the control option. Based on the data obtained, it can be said that herbicides do not adversely affect the germination of seeds.

In agriculture, all agrotechnical activities are aimed at creating favorable conditions for the growth and development of crops. Within these activities, it is important to lose weeds in time. Fields that are heavily contaminated with weeds are much more difficult to weed in a short period of time. This causes the growth and development of the Acorn to lag behind at the beginning of the amal period. The fact that the fields are clean from the beginning of vegetation can only be achieved with the help of herbicides. Table 4 shows that in variants where herbicides were used, the height of the acorn and the number of chin leaves were significantly higher than in the control variant.

In 2021, the height of the ACORN was 11.8 cm in the control variant at 1.06, Stomp, 33% at 1.5 L/, Stomp Beck, 33% at 1.0 L/, and Stomp Beck, 33% at 1.35 L/in the variants used in the norms were 13.9; 13.5 and 14.0 cm, respectively.

In the control variant, the height of the Acorn at 1.08 was equal to 75.8 CM in the control variant. Stomp Beck, 33% 1.0 l/GA when applied in the norm, measured the height of the Acorn at 81.6 CM. Stomp Beck, 33% 1.35 l/GA when applied in moderation, had a height of 85.5 CM. Stomp Beck, a variant used in the 33% 1.75 l/ga norm, had a height of 83.4 CM.

Table 4  
Acorn growth when herbicides are applied ( 2021.)

| № | Variants                    | Number of Chin leaves. dona | Head stem height, cm |      |      |
|---|-----------------------------|-----------------------------|----------------------|------|------|
|   |                             |                             | 1.06                 | 1.07 | 1.08 |
| 1 | Control, gerbit-free        | 4,9                         | 11,8                 | 43,5 | 75,8 |
| 2 | Stomp, 33 % , 1.5 l/ga      | 5,8                         | 13,9                 | 46,2 | 81,6 |
| 3 | Stomp Beck, 33% to 1.0 l/ga | 5,1                         | 13,5                 | 45,4 | 78,4 |
| 4 | Stomp Beck, 33% 1.35 l/ga   | 6,0                         | 14,0                 | 47,5 | 85,5 |
| 5 | Stomp Beck, 33% 1.7 l/ga    | 5,8                         | 13,2                 | 44,1 | 83,4 |

The height of the throat was 14.7 cm in the control variant at 1.06 of 2022, with Stomp, 33 % , 1.5 L/ga, Stomp Beck, 33% 1.0 L/ga and Stomp Beck, 33% 1.35 l/ga in the variants used in the norms 17.8; 17.6 and 18.1 cm respectively. Stomp Beck, a variant used in the 33% 1.7 l/ga norm, had a height of 17.3 CM.

Table 5

**Acorn growth when herbicides are applied (2022.)**

| № | Variants                    | Number of Chin leaves. | Head stem height, cm |      |      |
|---|-----------------------------|------------------------|----------------------|------|------|
|   |                             |                        | 1.06                 | 1.07 | 1.08 |
| 1 | Control, gerbit-free        | 5,8                    | 14,7                 | 47,4 | 79,9 |
| 2 | Stomp, 33 % , 1.5 l/ga      | 6,7                    | 17,8                 | 50,3 | 85,7 |
| 3 | Stomp Beck, 33% to 1.0 l/ga | 6,2                    | 17,6                 | 49,5 | 82,5 |
| 4 | Stomp Beck, 33% 1.35 l/ga   | 7,1                    | 18,1                 | 51,6 | 89,6 |
| 5 | Stomp Beck, 33% 1.7 l/ga    | 6,9                    | 17,3                 | 48,0 | 87,5 |

Stomp Beck, 33% 1.35 l/GA when applied in the norm at 1.08 the height of the ACORN was 89.6 CM. When this herbicide was applied in the norm of 1.75 l/ha, it was taken into account that the height of the ACORN was 87.5 CM.

The Control Option took into account that the height of the ACORN was equal to 79.9 CM during this period.

The number of crop branches was also low in the control variant compared to the experimental variants, at 1.08 to 12.3 units.(Table 6). In experimental variants, this figure averaged 12.9-13.4 units per plant.(Tables 6 and 7).

6-table

**The development of acorns when herbicides are applied (2021y.)**

| №  | Variants                   | Number of harvest branches, pieces |      | Number of breasts, pieces |      | Open cocoons, |
|----|----------------------------|------------------------------------|------|---------------------------|------|---------------|
|    |                            | 1.07                               | 1.08 | 1.08                      | 1.09 |               |
| 1. | Control, without herbicide | 4,4                                | 12,3 | 7,0                       | 11,2 | 3,1           |
| 2. | Stomp, 33 % , 1.5 l/ga     | 5,1                                | 13,2 | 7,7                       | 12,3 | 3,8           |

|    |                             |     |      |     |      |     |
|----|-----------------------------|-----|------|-----|------|-----|
| 3. | Stomp Beck, 33% to 1.0 l/ga | 4,8 | 12,9 | 7,4 | 12,0 | 3,6 |
| 4. | Stomp Beck, 33% 1.35 l/ga   | 5,2 | 13,4 | 7,9 | 12,9 | 4,0 |
| 5. | Stomp Beck, 33% 1.7 l/ga    | 5,1 | 13,1 | 7,8 | 12,5 | 3,8 |

Variants with Stomp, 33 %, 1.5 L/ga, Stomp Beck, 33% 1.35 l/ga, and 1.75 l/GA were found to have a 1.1 ; 1.7 and 1.3 units higher than the controls respectively.

Similar data was received in 2022. In the control option, the crop branches of the Acorn were 13.0 pieces at 1.08(Table 7). The Stomp, 33%, (1.5 l/ha) applied variant had 1.1 units more than the harvest Horn control variant

Table 7

The development of acorns when herbicides are used (2022.)

| №  | Variants                    | The number of branches formed, |      | the number of bruises, |      | the number of bruises opened in the pieces, |
|----|-----------------------------|--------------------------------|------|------------------------|------|---|
|    |                             | 1.07                           | 1.08 | 1.08                   | 1.09 |   |
| 1. | Control, without herbicide  | 5,5                            | 13,0 | 8,1                    | 12,3 | 3,8   |
| 2. | Stomp, 33 % , 1.5 l/ga      | 6,0                            | 14,1 | 8,8                    | 13,4 | 4,7   |
| 3. | Stomp Beck, 33% to 1.0 l/ga | 5,9                            | 13,6 | 8,3                    | 13,2 | 4,5   |
| 4. | Stomp Beck, 33% 1.35 l/ga   | 6,1                            | 14,3 | 9,1                    | 13,8 | 6,1   |
| 5. | Stomp Beck, 33% 1.75 l/ga   | 6,2                            | 14,1 | 8,9                    | 13,4 | 4,6   |

Stomp Beck, variants applied in 33% 1.35 and 175 l/ga standards had 1.3 and 1.1 units more than the harvest branch count control variant, respectively.

Variants applied in the Stomp, 33 %, 1.5 L/ga, Stomp Beck, 33% 1.35 l/ga norms had 1.1 and 1.5 units more than the controls respectively.

### 3.3. Cotton yield

The use of chemical preparations in optimal norms creates good conditions for the growth and development of acorns, ensuring that the fields are clean from weeds in a timely manner, and makes it possible to obtain a high yield of the cotton crop compared to the herbicide-free option.

Effective weed reduction resulted in higher cotton yield in experimental variants compared to the control option(Table 8).

Table 8

Cotton yield, ts / ga

| T.p. | Various                    | 2021 y | 2022 y | Ўртача ҳосил, ц/га | Назоратдан фарқи, ц/га |
|------|----------------------------|--------|--------|--------------------|------------------------|
| 1.   | Control, without herbicide | 29,7   | 33,8   | 31,8               | -                      |

|    |                               |      |      |      |      |
|----|-------------------------------|------|------|------|------|
| 2. | Stomp, 33 % , 1.5 l/ga        | 32,8 | 37,0 | 34,9 | +3,1 |
| 3. | Stomp Beck, 33% , 1.0 l / ga  | 31,9 | 36,1 | 34,0 | +2,2 |
| 4. | Stomp Beck, 33% , 1.35 l / ga | 33,8 | 38,0 | 35,9 | +4,1 |
| 5. | Stomp Beck, 33% , 1.75 l / ga | 32,1 | 36,5 | 34,3 | +2,5 |

A cotton yield of 3.1 ts/Ha was obtained for the control variant in the Stomp herbicide 1.5 l/ga variant, and 4.1 ts/ga for the control variant in the Stomp Beck herbicide 1.35 l/ga variant. A cotton yield of 2.5 ts/Ha was obtained when Stomp Beck was applied at a norm of 1.75 l/ha compared to the control option.

So it turns out that by applying Stomp Beck herbicide, it is possible to grow a crop higher than cotton, effectively reducing weeds in time.

#### 4.CONCLUSION

1. In Acorn fields, Stomp Beck reduces annual weeds by 86.3-90.7% when applied in a 1.35 l/Ga norm with the planting of the drug 33%. This herbicide provides an 88.9 – 90.3% loss of annual weeds when applied in a 1.75 l/ga norm.

2. Stomp Beck, along with planting 33% herbicide 1.35 l/ha, does not adversely affect the germination of seeds. The number of sprouts germinated was higher in experimental variants compared to the control variant.

3. Stomp Beck, along with the planting of the drug 33 %1, effectively reduces weeds when used in moderation to 35 l/ha, creating favorable conditions for the growth and development of the Acorn, which in turn ensures that the number of harvest branches is 1.1 - 1.3 pieces more than the control variety, and the acorns are 1.5-1.7 pieces more.

4. Stomp Beck, along with the planting of 33% of the drug1, received an average of 4.1 ts/ha of cotton crop in two years compared to the control option when applied in moderation to 35 l/ha.

#### Recommendations

Stomp Beck 33% e for the effective loss of annual weeds in the Acorn fields under the conditions of typical Acorn soils of the Tashkent region. it is recommended to apply K herbicide in moderation to 1.35 l/ha.

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