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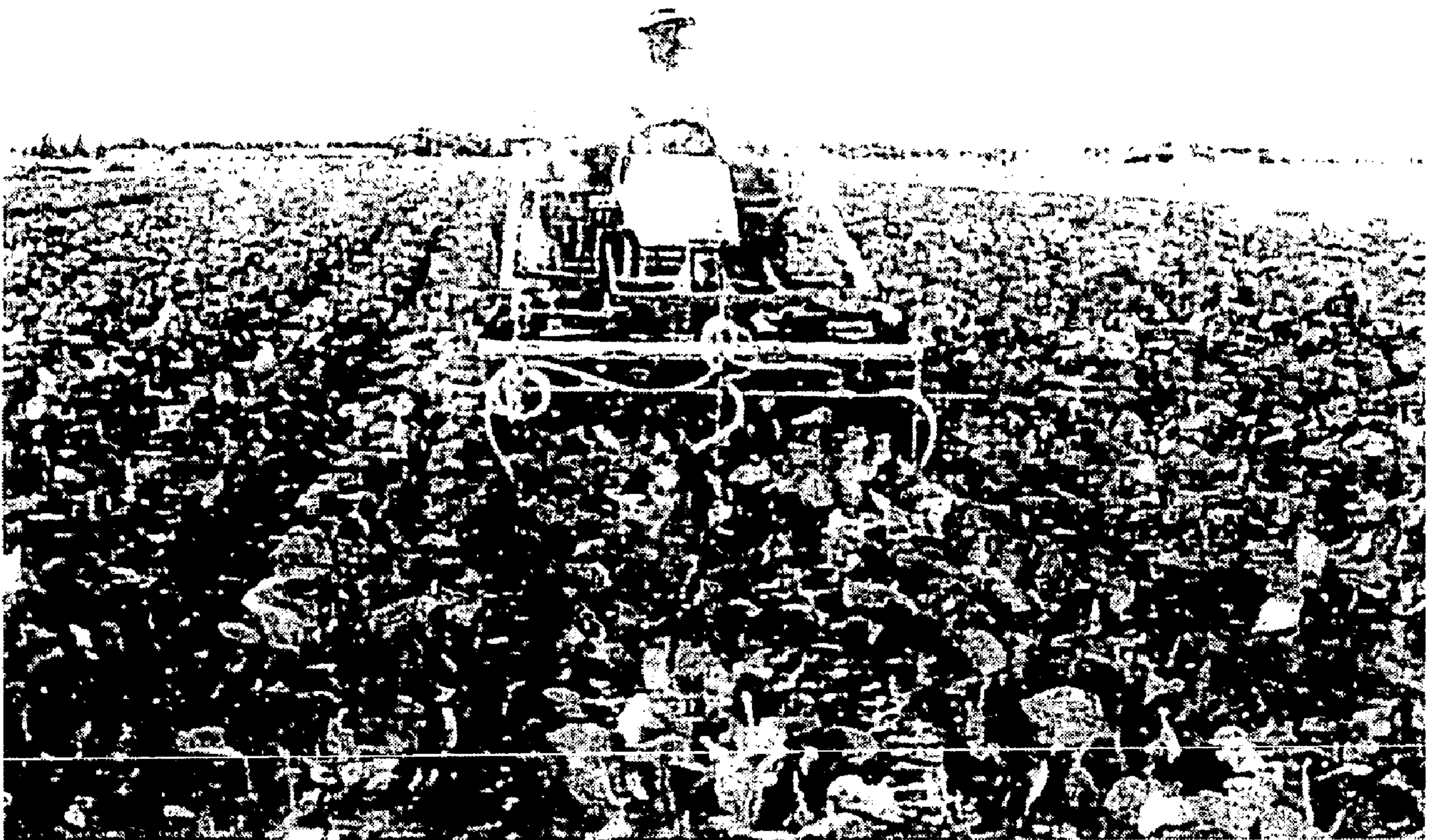
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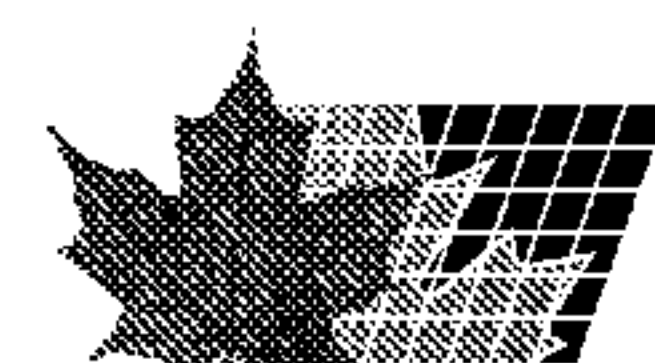
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(54) Title: METHOD OF SELECTIVELY CONTROLLING MORNING GLORY SPP



(57) Abrégé/Abstract:

A method of selectively controlling morning glory spp., by treating a lower portion of a hill of morning glory spp. with one compound or a combination of two or more compounds selected from glufosinate, L-glufosinate, bialaphos, paraquat, diquat and agriculturally acceptable salts of the compounds.



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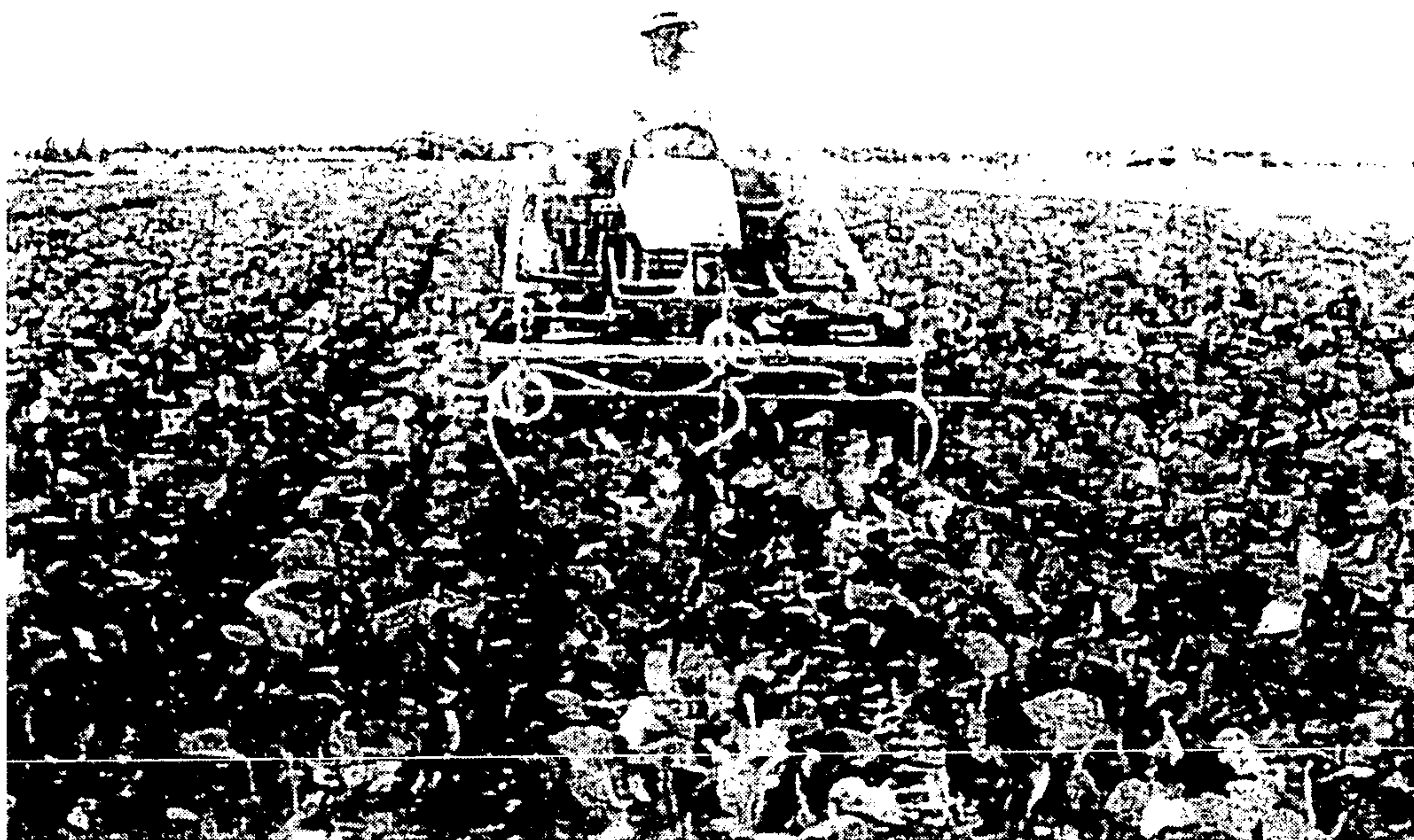
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(54) Title: METHOD OF SELECTIVELY CONTROLLING MORNING GLORY SPP



(57) Abstract: A method of selectively controlling morning glory spp., by treating a lower portion of a hill of morning glory spp. with one compound or a combination of two or more compounds selected from glufosinate, L-glufosinate, bialaphos, paraquat, diquat and agriculturally acceptable salts of the compounds.

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Method of selectively controlling morning glory spp.

5 Description

Technical Field

The present invention relates to a method of selectively controlling morning glory spp.

10 More specifically, the present invention relates to a method of selectively controlling morning glory spp. by treating a lower portion of morning glory with a certain kind of an active ingredient.

Background Art

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Recently, a number of weeds conventionally not observed in various domestic regions are found, and control thereof is a problem to be solved. Generation of these weeds is thought to be a result of mixing of seeds of the weeds into imported cereals and disseminating them to the fields as a compost of feces of domestic
20 animals that ate the cereals. Morning glory spp. as one of these weed species are strongly harmful weeds which are of vine property and coil around crops and trees, and which, in some cases, reach several meters.

Morning glory spp. can be often observed in soybean fields, paddy field ridge,
25 orchards, dry fields, farm roads, roadsides and the like in Ishikawa, Aichi, Mie, Gifu and Shizuoka prefectures, Tokyo, Chiba prefecture and the like.

For example, in the Tokai region, in soybean fields and some orchards showing generation of morning glory spp. as the most serious problem, there are recognized
30 generations of *Ipomoea hederacea* Jacq., *Ipomoea hederecea* Jacq. var. *integriuscula* A. Gray, *Ipomoea triloba* L., *Ipomoea lacunosa* L., *Ipomoea coccinea* L., *Ipomoea purpurea* Roth and *Ipomoea nil* Roth. Soybean cultivation in the Tokai region is often carried out with large scale by farming associates and large scale farmhouses, and when morning glory spp. prevail in soybean fields and coil around

soybean, their control is extremely difficult, and there is no other choice than discard of harvest in some cases. In the case of orchards, when morning glory spp. coil around trees and extend to sites over human reach, their control is extremely difficult.

- 5 Backgrounds of such various problems due to the generation of morning glory spp. include (i) the germination term of morning glory spp. lasts over a long period, and hence even if they are once controlled, new ones generate, (ii) the activities of soil-treating herbicides and selective foliar application herbicides for leaves on morning glory spp. are low, (iii) herbicidal activities of non-selective foliar application
- 10 herbicides on morning glory spp. differ among herbicides, (iv) dissemination of technology for spreading non-selective foliar application herbicides to inter-ridge during soybean growth period is lagged, and the like.

Disclosure of Invention

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The present inventors have investigated the above-mentioned problems to found that a herbicidal method set forth below controls morning glory spp. selectively, leading to completion of the present invention.

- 20 Thus, the present invention provides a method of selectively controlling morning glory spp., by treating a lower portion of a hill of morning glory spp. with one compound or a combination of two or more compounds selected from the group consisting of glufosinate, L-glufosinate, bialaphos (common name also: bilanafos), paraquat, diquat and agriculturally acceptable salts of the compounds.

25

The term "hill" of morning glory is a term used in agronomics and generally means "plant body" or "plant" of morning glory.

- 30 Surprisingly, according to the present invention, for example, glufosinate (salt) known as a foliar application herbicide is believed to usually kill only the treated portion of a weed due to its property, and show no migrating property of the active ingredient. However, when a lower portion of a hill of morning glory spp. is treated with glufosinate, an acropetal (upper) migrating property is specifically manifested, being capable of killing even stem edge portions not treated of morning glory spp.

Such a distinctive advantageous effect is a surprising one not observed until now, and, due to such controlling method as treating a lower portion of a hill of morning glory spp., the controlling method of the present invention is extremely purposive and
5 useful for suppressing phytotoxicity on crops in selective control between crops and weeds.

Brief Description of Drawings

- 10 Fig. 1 is a photograph showing full view of spraying of glufosinate (salt).
Fig. 2 is a photograph showing a glufosinate (salt) sprayed part.
Fig. 3 is a photograph showing a weedkilling process of glufosinate (salt).
Fig. 4 is a photograph showing a killing effect of glufosinate (salt).
Fig. 5 is a photograph showing a killing effect (immediately after spraying) of
15 diquat-paraquat (salts) mixed solution.
Fig. 6 is a photograph showing a killing effect (2 weeks after spraying) of diquat-paraquat (salts) mixed solution.

Best Mode for Carrying Out the Invention

20

Examples of the compound as the effective ingredient used in the present invention include one or more compounds selected from glufosinate, L-glufosinate, bialaphos (or bilanafos), paraquat and diquat, and agriculturally acceptable salts thereof.

- 25 Examples of the combination of two compounds include paraquat and diquat, preferably in form of their commercial salts paraquat dichloride and diquat dibromide. Preferred examples of the compound include glufosinate (racemic), L-glufosinate, bilanafos and salts thereof, preferably glufosinate ammonium, glufosinate sodium, L-glufosinate ammonium, L-glufosinate sodium and bilanafos-sodium.

30

The above-mentioned compounds defined by their common names are all known compounds (see, The Pesticide Manual, vol. 13, 2003, published by British Crop Protection Council). L-glufosinate is the herbicidally active optical isomer of the racemic mixture glufosinate.

In the present invention, examples of morning glory spp. as subjects to be controlled include:

Ipomoea hederacea Jacq.,

5 *Ipomoea hederecea* Jacq. var. *integriuscula* A. Gray,

Ipomoea lacunosa L.,

Ipomoea triloba L.,

Ipomoea coccinea L.,

Ipomoea purpurea Roth and

10 *Ipomoea nil* Roth.

The method of the present invention can be adequately used not only for controlling morning glory spp. in the situations of cultivation of useful crops, such as soybean cultivation, fruit cultivation and cotton cultivation, but also for controlling morning glory
15 spp. growing widely in non-agricultural fields and the like.

The advantageous effect of the present invention is observed in situations when the treatment with the herbicidal active ingredient is applied only to a portion of the hill (plant body) of morning glory rather than treatment of the entire plant body. These
20 situations are typical situations where morning glory shall be controlled selectively.

Examples for selective control are for instance control of the weed in the presence of a crop which plant shape allows for a treatment of lower portions of morning glory without substantial treatment of the crop, especially avoiding treatment of the crop
25 leaves. Such crops are, for example, soybean, cotton, grapevine, but also plantation crops of different kind, such as fruit trees (for example apple, pear, quince, peach, plum, olive, pistachios, kiwi fruit citrus crops). In such a case the crop need not or shall not be treated with the herbicidal compounds. The method thus ensures crop safety.

30

Other examples for selective control is treatment in non-agricultural fields, industrial fields and home- and garden-applications where the method according to the invention allows full control while other useful plants need not be affected.

Similar applications are possible where it is desirable to limit the application to the plants of morning glory in order to avoid treatment of certain areas such as lawn, patches, pathways or part of housings.

- 5 The method according to the invention often provides for a reduction in application rate due to avoidance of waste application of areas which need not be treated.

Although only a portion of the plant body has been treated the herbicidal effect surprisingly is observed in all portions of the plant body.

10

According to the invention the treatment with the herbicidal active ingredient or active ingredient mixture comprises treatment of a lower portion of the plant body of morning glory, preferably comprising treatment of leave no. 1 or of a group of leaves comprising leave no. 1, more preferably of a group of leaves comprising leave no. 1 and subsequent upper leaves of morning glory, such as leaves nos. 1 and 2 or 1, 2 and 3 or 1, 2, 3 and 4 or up to upper leaves, when available while keeping the leave with highest number or a group of leaves with higher numbered leaves untreated.

15

For practical purposes the features described have to be interpreted on average and also allows for treatments of a population of plants of morning glory where some of the plants are in different growing states and some of the plants may be treated with the herbicidal compounds comprising treatment of the entire plant body while some of plants are treated only on a lower portion of the plant body.

20

25 The above-mentioned compound, as an active ingredient, to be used in the controlling method of the present invention can be formulated into a conventional preparation form. Examples of the preparation form include emulsifiable concentrates, soluble concentrates, emulsions, wettable powders, suspensions and water dispersible granules.

30

These preparations can be prepared by a known manner per se. For example, an active ingredient can be mixed with a spreader, i.e., a liquid diluent and/or a solid diluent, using if necessary, a surfactant, i.e., an emulsifier and/or dispersing agent and/or foam forming agent, to prepare a preparation according to the present

invention.

When water is used as the spreader, an auxiliary solvent, e.g., an organic solvent, can be used. Examples of the liquid diluent include organic solvents such as aromatic hydrocarbons (e.g., xylene, toluene and alkylnaphthalene), chlorinated aromatic or chlorinated aliphatic hydrocarbons (e.g., chlorobenzenes, ethylene chlorides and methylene chloride), aliphatic hydrocarbons [e.g., cyclohexane or paraffins (e.g., mineral oil fraction, mineral oil and vegetable oil)], alcohols (e.g., butanol and glycol, and ethers or esters thereof), ketones (e.g., acetone, methyl ethyl ketone, methyl isobutyl ketone and cyclohexanone), strong polar solvents (e.g., dimethylformamide and dimethyl sulfoxide), and water.

Examples of the solid diluent include ammonium salts and ground natural minerals (e.g., kaolin, clay, talc, chalk, quartz, attapulgite, montmorillonite and diatomaceous earth), ground synthetic minerals (e.g., highly dispersed silicic acid, alumina and silicate). As the solid carrier for powders, there can be used, ground and classified rocks (e.g., calcite, marble, pumice, sepiolite and dolomite), synthetic particles of inorganic and organic powders, organic substance fine grains (e.g., sawdust, coconut shell, corn cob and tobacco stem) and the like.

The emulsifier includes nonionic and anionic surfactants. Suitable examples of the nonionic surfactant include compounds obtained by addition-polymerizing ethylene oxide to a higher alcohol such as lauryl alcohol, stearyl alcohol and oleyl alcohol; compounds obtained by addition-polymerizing ethylene oxide to an alkyl phenol such as isooctylphenol and nonylphenol; compounds obtained by addition-polymerizing ethylene oxide to an alkyl naphthol such as butylnaphthol and octylnaphthol; compounds obtained by addition-polymerizing ethylene oxide to a higher fatty acid such as palmitic acid, stearic acid and oleic acid; compounds obtained by addition-polymerizing ethylene oxide to an amine such as dodecylamine and stearic acid amine; higher fatty esters of polyhydric alcohols such as sorbitan and compounds obtained by addition-polymerizing ethylene oxide to them; compounds obtained by block-addition-polymerizing ethylene oxide and propylene oxide. Suitable examples of the anionic surfactant include alkyl sulfate salts such as sodium lauryl sulfate and oleyl alcohol sulfate amine salt; alkyl sulfonate salts such as sodium

dioctyl sulfosuccinate and sodium 2-ethylhexene sulfonate; aryl sulfonate salts such as sodium isopropyl naphthalene sulfonate, sodium methylenebisnaphthalene sulfonate, sodium ligninsulfonate and sodium dodecylbenzenesulfonate.

- 5 As the dispersing agent, for example, lignin sulfite waste liquid or methylcellulose is suitable.

A fixing agent can also be used in the preparation (emulsion), and examples thereof include carboxymethylcellulose, natural or synthetic polymers (e.g., gum Arabic,
10 polyvinyl alcohol and polyvinyl acetate), natural phospholipids (e.g., cephalins and lecithins), and synthetic phospholipids. Further, mineral oils or vegetable oils can also be used as an additive.

A coloring agent can also be used, and the coloring agent includes inorganic
15 pigments (e.g., iron oxide, titanium oxide and Prussian blues), organic dyes such as alizarin dye, azo dye or metal phthalocyanine dye, further, trace elements such as salts of metals, for example, iron, manganese, boron, copper, cobalt, molybdenum and zinc.

- 20 The preparation can contain the above-mentioned compounds, as an active ingredient, generally in a concentration of 0.1 to 95 wt%, preferably 0.5 to 90 wt%.

In the controlling method of the present invention, the above-mentioned compound, as an active ingredient, can be used in the form of the above-mentioned preparation,
25 and these can be applied, for example, to watering or spraying of the liquid preparation.

The application amount of the compound or the combination of compounds to be used in the method of the present invention can vary appropriately in a substantial
30 range depending on the kind of an active ingredient, growth (exuberant) conditions of morning glory spp., application period, weather conditions and the like. The application amount can be generally in a range of 0.05 to 2.0 kg/ha, preferably 0.1 to 1.5 kg/ha in terms of the amount of the active ingredient.

Depending on the particular application conditions and parameters, such as leave-stages of morning glory, crop and spraying means, the weed control can be effective in a more narrow range of application rate of from 0.05 to 1 kg/ha, preferably 0,1 to 0,8 kg/ha of the amount of the active ingredient, preferably glufosinate (salts).

5

Preferred is the control of morning glory spp. in soybean using the method of the present invention. The method can be preferably carried out in a soybean field where the soybean plants are set in rows, and the herbicidal compound or compound mixture is applied by spraying devices which direct the spray drizzle to the portion of morning glory below the level of the leaves of the soybean plants and between the rows of the soybean plants, thus avoiding substantial treatment of the soybean plants. Spraying devices which can be used in the method of the invention are commercially available or can be set up on the basis of existing spraying devices by modifying the position and/or direction of the nozzles or jets. Similar preferred treatments as described for soybean crops are also appropriate for other crops, correspondingly.

10

15

Excellent advantageous effects of the present invention will be illustrated further specifically by the following examples, but the present invention should not be construed to be limited to these examples.

Examples

Biological test example:

5 Test herbicide in Test Examples 1 and 2

Glufosinate: In all tests the glufosinate is used as glufosinate solution (commercially available product) containing the active ingredient in an amount of 18.5% in the form of its ammonium salt, also abbreviated as "glufosinate (salt)".

10 Test Example 1: Morning glory spp. control test

Herbicidal property of glufosinate (salt) on morning glory spp:

15 In the case of spraying of glufosinate (salt) only on the lower half portion of a hill of morning glory spp:

Ipomoea hederacea Jacq. and *Ipomoea triloba* L. generated in the form of grapevine and at the edge of a soybean field in Anjo City, Aichi Prefecture were tested. A 200-fold diluted solution of glufosinate was sprayed only on the lower half portion of the hill while covering the upper half portion thereof with plastic film so that the
20 solution was not sprayed thereon. Thereafter, effects on the lower and upper half portions were observed.

In the case of spraying of glufosinate (salt) only on the upper portion of morning glory spp:

25 *Ipomoea lacunosa* L. (eight leaves) in a pot was tested. A 200-fold diluted solution of glufosinate (salt) was sprayed only on the upper portion of a stem while preventing spraying on the lower portion thereof. Thereafter, effects on respective portions were observed.

30 Result and consideration:

1. Glufosinate (salt) showed a high activity on all of the tested morning glory spp., *Abutilon theophrasti*, *Sida spinosa* L., HIROHAFUURINHOZUKI, *Aeschynomene indica* and *Solanum carolinense*. A high activity was shown particularly on morning

glory spp., even at a low herbicidal amount of 100 mL/10 a. Pentazone as a reference herbicide showed a lower activity on morning glory spp. as previously reported, while showed a high activity on *Abutilon theophrasti*. Further, glyphosate isopropylammonium showed specifically slow manifestation of the activity on these plants, and the activity was insufficient particularly on morning glory spp. at the field level in this test range.

2. When glufosinate (salt) was sprayed only on the lower half portion of the hill of morning glory spp., its activity appeared not only in the lower half portion of the hill but also in the peak thereof (see Table 1). This phenomenon appeared first at the peak portion of the hill, thereafter, appeared at the lower portions sequentially. In contrast, when glufosinate was sprayed only on the upper portion of the stem, the effect was observed in one to two leaves under the sprayed region, while the effect was not observed in the lower leaves and in root (see Table 2).

Table 1 Effect of glufosinate (salt) spraying on a lower half portion of a hill of morning glory spp. exerted on an upper half portion thereof

Portion	Glufosinate sprayed portion (●)	<i>Ipomoea hederacea</i> Jacq.	<i>Ipomoea triloba</i> L.
Upper half		+++	+++
Lower half	●	+++	+++

20 Conditions:

- Test place: Anjo City, Aichi Prefecture (soybean field)
- Treating day: August 13, 2005
- Examination date: August 23
- Glufosinate (salt) spray: Hills in the form of grapevine having a length of around 70 cm were used as subjects, and a 200-fold diluted solution was sprayed on the lower half portion of the hills
- Effect: +++ complete death, ++ almost death,
+ partial death, - no effect

Table 2 Effect of glufosinate (salt) spraying on an upper portion of a stem of *Ipomoea lacunosa* L. exerted on a lower portion thereof

Portion in terms of the number of leaves	Glufosinate-sprayed region (●)	Effect
Peak portion of stem	●	+++
8	●	+++
7	●	+++
6		++
5		++
4		-
3		-
2		-
1		-
Root		-

5 Conditions:

- Test place: Kashiwa City, Chiba Prefecture (pot test)
- Treating day: October 23, 2005
- Examination date: November 6, cotyledons defoliated at the time of spraying
- Glufosinate spray: A 200-fold diluted solution was sprayed on from a peak portion of the stem of morning glory spp. in the form of grapevine to an approximately intermediate site between the sixth and the seventh leaves
- Effect: +++ complete death, ++ almost death, + partial death, - no effect

Test Example 2 Fact and superiority of weedkilling by a control machine-spraying of glufosinate (salt) on soybean inter-ridge during its growth period

Soybean cultivation in the Tokai region is often carried out with large scale by farming associates and large scale farmhouses. Under such circumstances, morning glory spp. cause a serious problem in soybean fields during its growth period, and its

controlling method is required to be established quickly. In soybean fields in Anjo City, Aichi Prefecture showing a problem of morning glory spp., a test for proving applicability of controlling morning glory spp. was performed using a control machine-spraying intending laborsaving.

5

1. Grain farming summary and experimental method

A grain farming summary and an experimental method are shown in Table 3.

10 Table 3: Grain farming summary and test method

-
- Test place: Izumi, Anjo city, Aichi prefecture
 - Test field scale: 30 a
 - Dissemination date: June 27, 2005
 - Ridge width: 70 cm
 - Glufosinate (salt) spraying date: August 9
 - Soybean height in spraying: 50 to 55 cm
 - Herbicide amount: 500 mL/10 a
 - Water amount: 100 L/10 a
 - Main weeds in spraying: *Ipomoea triloba* L., *Ipomoea hederacea* Jacq.,
Ipomoea hederecea Jacq. var. *integriuscula* A.
Gray, *Ipomoea coccinea* L., *Aeschynomene*
indica, *Digitaria ciliaris* and Japanese barnyard
millets (*Echinochloa esculenta* spp.)
 - Spraying nozzle: soybean inter-ridge herbicide spraying nozzle (manufactured
by Maruyama Seisakusho)
 - Setting of non-treated district: three non-treated districts of 168 m² set in the
same field
 - Crop date: November 11
 - Crop check: 4.2 m² (3 ridge × 2 m) whole stem reaping and measuring of
weight of bean after air drying
-

2. Result and consideration

1) Spraying nozzle, spraying theory, actual spraying

5 Spraying circumstances are shown in Figs. 1 and 2. A commercially available spraying apparatus was attached to the front side of a riding-type control machine, and glufosinate was sprayed from near ground edge. The nozzle position can be varied depending on ridge width and soybean height. In a theory of spraying a herbicide, the herbicide is introduced from a herbicide tank through a hose so that the herbicide can be sprayed on a lower part between ridges (suspending mode). Some farmhouses devise by themselves this spraying apparatus. The spraying period in this procedure was 45 minutes/30 a, and the herbicidal time was significantly shortened.

15 2) Herbicidal effect and scattered phytotoxicity after spraying

In spraying (Figs. 1, 2 and 3), morning glory spp. developed almost all over the field, and some of them coiled around soybean, the peak portion thereof extending up to over the head portion of soybean. Fig. 1 is a photograph showing full view of glufosinate spraying. Fig. 2 is a photograph showing glufosinate (salt) sprayed part. Fig. 3 is a photograph showing a herbicidal process of glufosinate (salt). In Fig. 3, an upper stage shows a photograph immediately before spraying (August 9), a middle stage shows a photograph 4 days after spraying (August 13), and a lower stage shows a photograph 14 days after spraying (August 23). Fig. 4 is a photograph showing the killing effect of glufosinate (salt) ranging to the peak portion (shown with an arrow) of the stem of *Ipomoea triloba* L. (14 days after spraying, August 23). As apparent from the above-mentioned photographs, the herbicidal effect of glufosinate (salt) was observed from the next day after spraying, and 4 days after spraying, most of leaves at grapevine-form parts of the morning glory spp. died. This effect appeared even in the peak portion of the stem extending up to over the head portion of the soybean, and in this portion, leaves and stems of morning glory spp. turned to yellow. 14 days after spraying, though some individuals did not die completely, most of the morning glory spp. died up to the peak portion of the stem (Figs. 3, 4). Phytotoxicity in the case of scattering to soybean was observed in the

cotyledon and the first leaf, however, little phytotoxicity was observed in the upper leaves. From these phenomena, it was believed that the morning glory spp. show very higher sensitivity to glufosinate (salt) than soybean.

5 3) Effect on bean weight of soybean

In non-glufosinate (salt)-sprayed districts, morning glory spp. elongated so as to cover the whole field, and soybean had a lot of abnormal shape hills including falling, folding, twisting and the like. As a result, while the bean weight was 193 kg/10 a in the glufosinate-sprayed district, in the non-glufosinate (salt)-sprayed district, the weight decreased remarkably to as low as 96 kg/10 a, revealing remarkable herbicidal effect (see Table 4).

From the various results described above, spraying of glufosinate (salt) by a control machine in a soybean field during its growing period is a weed controlling technology of high popularization, and dissemination thereof in the further is expected. Further, it was clarified that glufosinate (salt) has an action of killing even up to the peak portion of a stem with generating scarce phytotoxicity in soybean by spraying on only the lower portion of a stem of morning glory spp.

Table 4

Effect of weedkilling by spraying glufosinate (salt) with a control machine in a soybean field with rampant morning glory spp. exerted on the bean weight of soybean

District	Bean weight (kg/10 a)
Glufosinate (salt)-sprayed district	193±29
Non-glufosinate (salt)-sprayed district	96±21

Test Example 3: Morning glory spp. control test by diquat-paraquat mixed solution

Test method: Commercially available morning glories having a height of 70 cm to 100 cm cultivated in a pot were tested. A diquat-paraquat solution (active ingredient amounts, diquat:paraquat = 7%:5%, diquat dibromid and paraquat dichloride used, amounts calculated for diquat and paraquat) was sprayed using a hand sprayer on the lower portion of the plant up to 20 cm position (mixed solution amount: 1000 mL/10 a, water: 100 L/10 a). In this operation, the plant was covered with a bag so that the solution did not scatter over the 20 cm position thereby to prevent the scattering of the solution. Thereafter, the herbicidal effect was observed 1 week after and 2 weeks after.

Result: The morning glory died up to the peak portion at 1 week after and 2 weeks after observations.

Conditions immediately after and 2 weeks after spraying are shown in appended photographs (Figs. 5 and 6).

Test Example 4: Morning glory spp. control test with bialaphos solution

Test method:

On August 9, 2005, a bialaphos solution (active ingredient amount: 18%, used in the form of the sodium salt bialaphos-sodium, amount calculated for bialaphos) was sprayed (solution amount: 500 to 1500 mL/10 a, water amount: 100 L/10 a) to morning glory spp. (height: 55 cm to 70 cm) such as *Ipomoea triloba* L. and *Ipomoea hederacea* Jacq. generated between ridges in a soybean field and coiled around soybean, from land surface up to a height of 20 cm above ground, and the herbicidal effect thereafter was observed.

Result: The effect was observed from the next day after the treatment, and 1 week after, the morning glory spp. died up to the peak portion of vine in every test section (solution amount: 500 mL/10 a, 1000 mL/10 a, and 1500 mL/10 a).

Claims

1. A method of selectively controlling morning glory spp. comprising treating a lower portion of a hill of morning glory spp. with one herbicidal compound or a
5 combination of two or more herbicidal compounds selected from a group consisting of glufosinate, L-glufosinate, bialaphos, paraquat, diquat and agriculturally acceptable salts of the compounds.
2. The method as claimed in claim 1, wherein the compound is glufosinate or
10 L-glufosinate or an agriculturally acceptable salt of glufosinate or of L-glufosinate.
3. The method as claimed in claim 1 or 2, wherein the selective control is performed in a crop.
- 15 4. The method as claimed in claim 3, wherein the crop is a soybean cultivation, fruit cultivation or cotton cultivation.
5. The method as claimed in any of claims 1 to 4, wherein the compound or compound combination is applied at an application rate of 0.05 to 2.0 kg/ha.
20
6. The method as claimed in any of claims 3 to 5, wherein the compound or compound combination is applied by spraying devices which direct the spray drizzle to the portion of morning glory below the level of the leaves of the crop plants and between the crop plants.
25
7. The method as claimed in claim 6, wherein the crop plant is soybean.

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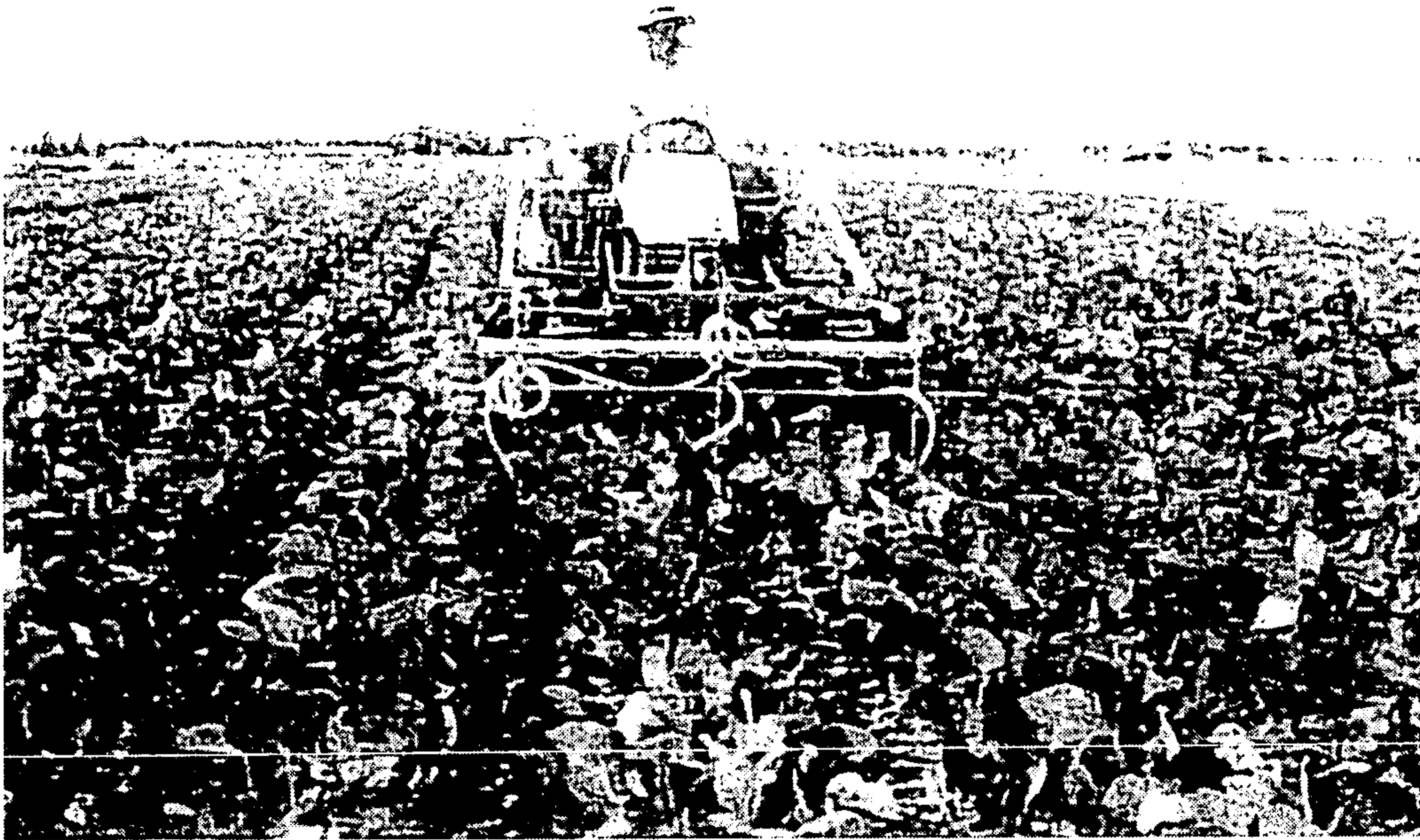
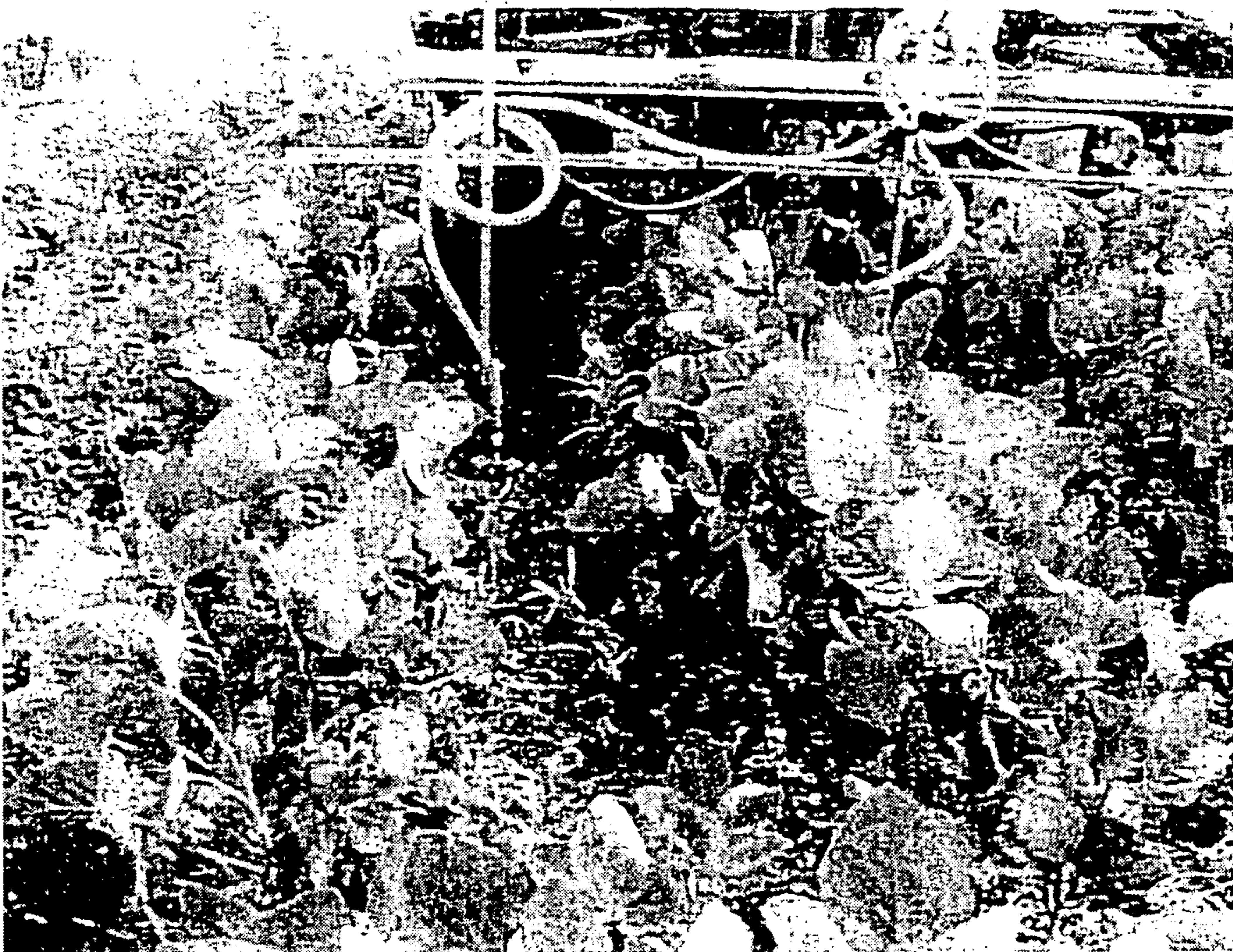


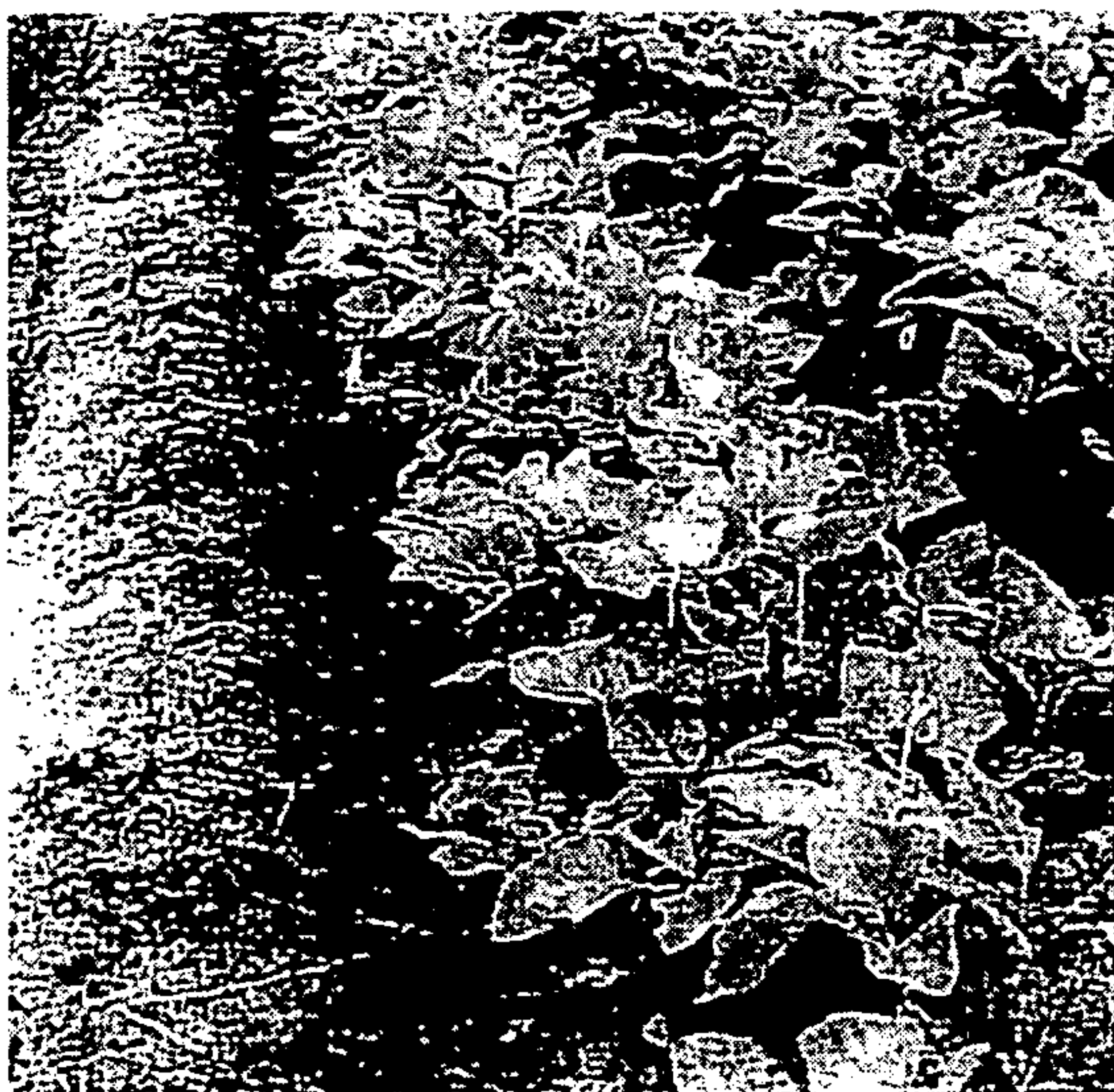
Fig. 1

Fig. 2



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Fig. 3



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Fig. 4

Fig. 5



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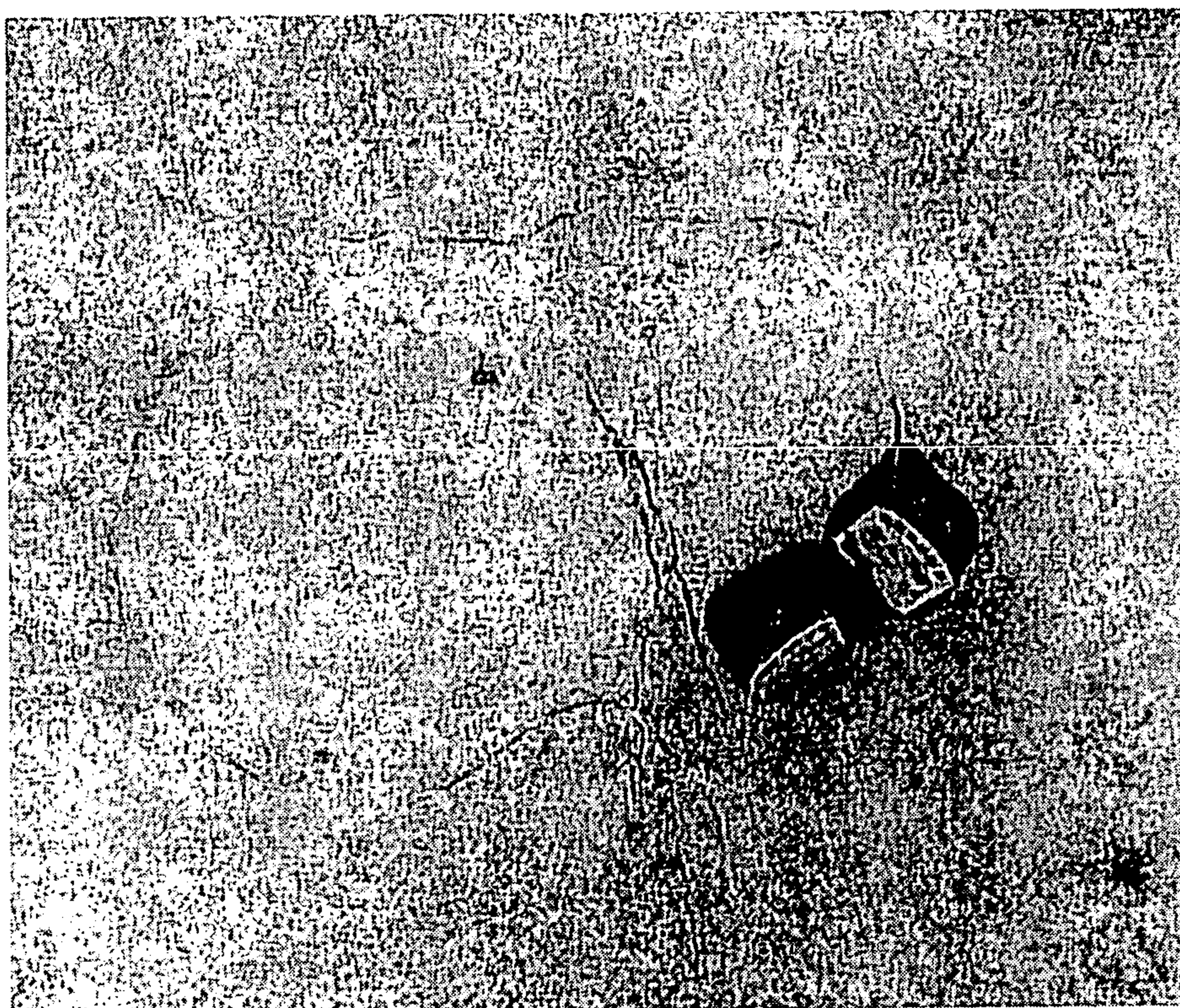


Fig. 6

Box No. VIII (v) DECLARATION: NON-PREJUDICIAL DISCLOSURES OR EXCEPTIONS TO LACK OF NOVELTY

The declaration must conform to the standardized wording provided for in Section 215; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (v). If this Box is not used, this sheet should not be included in the request.

Declaration as to non-prejudicial disclosures or exceptions to lack of novelty (Rules 4.17(v) and 51bis.1(a)(v)):

In relation to this international application, Bayer CropScience AG declares that the subject matter claimed in this international application was disclosed as follows:

(i) kind of disclosure:

(d) other: "A presentation of the present invention has been made by SEO, Seok Weon at the 2006 spring conference of the Weed Science Society of Japan"

(ii) date of disclosure:

03. April 2006 (03/04/2006)

(v) this declaration is made for the purposes of:

(a) all designations except Japan

☐ This declaration is continued on the following sheet, "Continuation of Box No. VIII (v)".

