GLYPHOSATE, PROFENOFOS AND NEONICOTINOIDS

Department of Agriculture & cooperation (DAC) vide letter no 12078/04/2019-PP-I (e72852) dated 17th June, 2019 forwarded a copy of letter from PMO Id No. 5053420/PMO/2019-ES2 dated 10 June, 2019 enclosing a representation from Shri V V Swaminathan, Ex-member of parliament regarding Usage of Insecticides which was deliberated in RC in its 404th meeting vide agenda item no.3.1 and following decision was taken:

PMO reference forwarding therewith representation of Shri V. V. Swaminathan ex-member of parliament – “Ban of some pesticides”.

The committee deliberated the agenda and decided to request DAC&FW to constitute a committee to review Glyphosate and Profenofos for continued use or otherwise in the country.

Proposal from Govt. of Kerala for banning of Glyphosate & all its derivatives u/s27 of Insecticides act, 1968 was also forwarded by DAC vide letter no. 13035/19/2019-PP-I (e73767) dated 2nd August, 2019 which was also deliberated in 407th RC meeting vide agenda item no.3.3 wherein the following decision was taken:

Reference received from Government of Kerala requesting for banning of Glyphosate and all its derivatives u/s 27 (2) of the Insecticides Act.

The RC deliberated the agenda and noted that on the basis of the reference received from other quarters, RC in its 404th meeting at agenda item no 3.1 has already decided to refer the matter to the DAC&FW to constitute an expert committee to review the pesticides for banning.

GLYPHOSATE

Glyphosate is a broad-spectrum systemic herbicide. The International Program On Chemical Safety (IPCS) hazard classification of Glyphosate is: slightly hazardous, class III.

In March 2015, International Agency for Research on Cancer (IARC) classified Glyphosate as “probably carcinogenic to humans” (Group 2A). This was based
on "limited" evidence of cancer in humans and "sufficient" evidence of cancer in experimental animals.

Earlier, glyphosate was considered to have low acute toxicity and showed no adverse effects with regard to carcinogenicity, mutagenicity, teratogenicity or reproduction toxicity. Acute toxicity of Glyphosate acid and its salts exhibited a low acute toxicity in laboratory animals by the oral and dermal route with LD50 values greater than 5000 mg/kg bw. Regarding primary irritation, glyphosate acid and the salts were found to be non-irritant, at least to intact skin. In contrast, undiluted glyphosate acid was found to be strongly irritant to rabbit eyes, there was markedly less eye irritation observed with the salts. No Skin-Sensitization with either glyphosate acid or the salts.

Short-term toxicity: Subacute and subchronic oral toxicity studies also showed a low toxicity of glyphosate. Repeated dermal exposure of rabbits and rats to glyphosate did not result in any systemic effects. Non-irritant to skin.

Mutagenicity/carcinogenicity: Glyphosate was examined for mutagenicity in a wide range of test systems covering all relevant endpoints in vitro as well as in vivo, it can be concluded that the active ingredient does not exhibit a mutagenic risk to humans. It should be also taken into consideration that there is no evidence of carcinogenic effects in humans, although glyphosate products have been in use world-wide for many years.

Reproduction toxicity: Multi-generation studies in rats did not indicate a specific hazard of glyphosate for reproduction. Glyphosate is not teratogenic. The NOEL for developmental effects was 1000 mg/kg bw/day in rats and 175 mg/kg bw/day in rabbits.

Glyphosate is of low risk to birds, mammals, aquatic organisms, bees, earthworms and micro-organisms in soil. On the basis of toxicity data and application rates for the active substance glyphosate, the risks for birds, mammals, aquatic organisms, bees, earthworms and micro-organisms in soil in observance of corresponding risk management measures are regarded as slight.

The metabolite amino methyl phosphonic acid (AMPA) has a lower toxicity than the parent compound and is devoid of a mutagenic or teratogenic potential. ADI of 0.3 mg/kg bw for
glyphosate based on long-term studies in rats has been published by WHO based on the JMPR evaluation of 1986.

**BANNING STATUS:** 20 countries have now banned or restricted the use of this herbicide. https://sustainablepulse.com/2019/05/28/glyphosate-herbicides-now-banned-or-restricted-in-17-countries-worldwide-sustainable-pulse-research/#.XigVHVv4zZdg.

**LIST OF ALTERNATIVES:** Annexure

**DECISION/RECOMMENDATION OF RC**

The Prime Minister’s Office (PMO) reference received on representation of Hon’ble Shri. V.V. Swaminathan, Ex-Member of Parliament on Ban of some pesticides and request received from Government of Kerala requesting for banning of Glyphosate and its derivatives. The RC noted that the decisions taken by International Agency for Research on Cancer (IARC), classified glyphosate as “probably carcinogenic to humans” (Group 2A) in March, 2015. This was based on “limited” evidence of cancer in humans and “sufficient” evidence of cancer in experimental animals. The acute mammalian toxicity studies revealed as: Acute Oral LD₉₀ in rats - > 4320 mg/kg; Acute Dermal LD₅₀ in rabbits - > 2000 mg/kg; Acute inhalation LC₅₀ in rats - >4.43 mg/L; Primary skin irritation - Non-irritant; Eye irritation - Slight eye irritants; Skin sensitization - Not sensitizer. It is an organophosphorus compound, specifically a phosphonate, which acts by inhibiting the plant enzyme 5-enolpyruvylshikimate-3-phosphate synthase. Another report from the World Health Organization (Joint Meeting of Pesticide Residue) has concluded that glyphosate is “unlikely to pose a carcinogenic risk to humans from exposure through the diet” (22 May 2016).

The RC noted that this issue was deliberated by different regulatory bodies including USA, Australia, Canada, EU. The RC also perused its present status of registration in various countries. In India, under the Insecticides Act, 1968 various formulations of the glyphosate are registered for use on tea and non-crop areas. The RC also noted its mutagenic concerns as per available literature. There are reports for its ED concerns also.

Considering its prima-facie safety w.r.t. risk to humans from exposure through the diet and the uncertainties prevailing on some of the safety aspects during handling, RC decided that use of glyphosate formulations may be allowed through Pest Control Operators (PCOs). The product falls under category 3a of European Union prioritization of
Endocrine Disrupting Chemicals. In view of its ED and other concerns; the use may be reviewed after two years.
### Glyphosate Alternate Chemicals List

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Formulations</th>
<th>Approved for crop</th>
<th>Alternative herbicides registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate</td>
<td>Glyphosate 20.2% SL IPA salt</td>
<td>Non-crop area</td>
<td>2,4-D Dimethyl Amine salt 58% SL, 2,4-D Sodium salt Technical (having 2,4-D acid 80 % w/w)(Earlier Registered as 80%WP)</td>
</tr>
<tr>
<td>Glyphosate Ammonium salt 20 % SL</td>
<td></td>
<td>Non-crop area</td>
<td>2,4-D Dimethyl Amine salt 58% SL, 2,4-D Sodium salt Technical (having 2,4-D acid 80 % w/w)(Earlier Registered as 80%WP)</td>
</tr>
<tr>
<td>Glyphosate 41% SL (IPA Salt)</td>
<td>Tea</td>
<td>Non-cropped area</td>
<td>2,4-D Dimethyl Amine salt 58% SL, 2,4-D Sodium salt Technical (having 2,4-D acid 80 % w/w)(Earlier Registered as 80%WP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Oxyflourfen 23.5% EC Paraquat dichloride 24% SL <strong>Triasulfuron 20% WG</strong></td>
</tr>
<tr>
<td>Glyphosate 54% SL (IPA Salt)</td>
<td></td>
<td>Non-crop area</td>
<td>2,4-D Dimethyl Amine salt 58% SL, 2,4-D Sodium salt Technical (having 2,4-D acid 80 % w/w)(Earlier Registered as 80%WP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glyphosate Ammonium Salt 5% SL</td>
<td>Tea</td>
<td>Non-crop area</td>
<td>2,4-D Dimethyl Amine salt 58% SL, 2,4-D Sodium salt Technical (having 2,4-D acid 80 % w/w)(Earlier Registered as 80%WP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Oxyflourfen 23.5% EC Paraquat dichloride 24% SL <strong>Triasulfuron 20% WG</strong></td>
</tr>
<tr>
<td>Glyphosate 71% SG (Ammonium Salt)</td>
<td>Tea</td>
<td>Non-crop area</td>
<td>2,4-D Dimethyl Amine salt 58% SL, 2,4-D Sodium salt Technical (having 2,4-D acid 80 % w/w)(Earlier Registered as 80%WP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
No. 12078/04/2019-PP-I (e 72852)
Government of India
Ministry of Agriculture & Farmers Welfare
Department of Agriculture, Cooperation & Farmers Welfare

Krishi Bhawan, New Delhi,
Dated the 17th June, 2019.

To
The Secretary (CIB&RC)
DPPQ&S
NH-IV, Faridabad

Subject: PMO reference forwarding therewith representation of Shri V. V. Swaminathan, Ex-Member of Parliament-reg.

Sir,

I am directed to forward herewith a copy of PMO ID No. 503420/PMO/2019-ES2 dated 10.06.2019 received from Prime Minister's Office forwarding therewith a copy of letter dated 24.05.2019 addressed to the Hon’ble Prime Minister by Shri V.V. Swaminathan, Ex-Member of Parliament regarding usage of insecticides.

2. In this context, it is requested to furnish comments in the matter to this Ministry immediately on priority basis.

Yours faithfully,

( C. R. Ajayan),
Under Secretary to the Government of India

Encl. As above.

Copy to: (For Information)
The Plant Protection Adviser, DPPQ&S, NH-IV, Faridabad.
Please find enclosed, for comments, copy of a self-explanatory letter dated 24.05.2019 addressed to the Prime Minister by Shri V.V. Swaminathan, Ex-Member of Parliament.

(Vijay Kumar Mantri)  
Deputy Secretary  
Ph. 2301 7442

Secretary, Department of Agriculture, Cooperation & Farmers' Welfare  
PMO ID No.5053420/PMO/2019-IES2  
Dated: 10.06.2019

Encl: As above
To
Hon. Shri Narendra Modi
Prime Minister
Government of India
New Delhi.

Hon. Sir,

Hearty Congratulations for your Himalayan Election Victory praised world over.

Sub: Request for orders to the concerned Ministries of the Central Government and Government of Tamil Nadu to prohibit import, purchase, sale, distribution and use of insecticides without fear banned about 100 in number in other countries if you want corruption-free administration in the Centre and States - Regarding

Ref: News by the Special Reporter Mr. Anandu appeared in The Hindu, popular Tamil daily on 18/05/2019 in Chennai Edition in Tamil Nadu.

Honoured Sir,

When it is well-known fact why highly poisonous human life killers insecticides like Mono Chloropas Propolopass, Glypose, Paraquat are allowed to be used daily by the poor farmers in the fields in Tamil Nadu or any other states if India is one country. Certainly it is just for corruption by money or other considerations the insecticides banned in many countries across the world are deliberately allowed to be used by the Govt. officers both in the Centre and States who deserve to be severely punished.

Since the State is not interested in saving human lives, I have to invite the attention of the P.M.O.

With regards,

Yours Sincerely,
The representatives of M/s Bayer Vapi Ltd., had made presentation regarding the purity of the technical Fipronil since the product Fipronil technical has already been registered with purity 90% min. under section 9(3) whereas the purity of the product on ICAMA website for said source is 95%. Therefore, deferred for want of further clarification with respect to detailed chemical composition of Fipronil Technical 90% min. on an affidavit.

2.5 Presentation by M/s Insecticides India Ltd., for grant of registration for indigenous manufacture of Dinotefuran Technical 97.00% w/w min. under section 9(3).

The representatives of M/s Insecticides India Ltd., had made presentation regarding the registration of Dinotefuran Technical 97.00% w/w min. Committee decided that the case may be brought to Registration Committee along with comments of the experts of all disciplines before RC with complete analysis and chronology.

2.6 Presentation by M/s Sumitomo Chemical India Pvt. Ltd., for registration of Clothianidin 7.5% CS for indigenous manufacture us/9(3).

The representatives of M/s Sumitomo Chemical India Pvt. Ltd., had made presentation regarding the registration of Clothianidin 7.5% CS. The committee decided that Secretariat should bring a detail report on this issue.

2.7 Presentation by M/s Hindustan Foods Ltd., for endorsement of additional pack size of 200 ml, 400 ml and 600 ml capacity in TIN container as per IS 9992-1990 and CFB boxes of capacity 9.6 liter as per IS 2771 (Pt-I) – 1989 shall be transport packing for D-trans allethin 0.1% + Permethrin 0.03% w/w + Imiprothrin 0.02% w/w Aerosol.

The representative of M/s Hindustan foods Ltd., made presentation before the RC for close pack size of 200 ml and 400 ml capacity and removal of secondary packing (LDPE shrink pack) due to implementation of Plastic Waste Management Rule 2016. RC deliberated the agenda and decided that currently the product comes in tin plate container 150ml, 250 ml, 32 ml and 425 ml capacity with LDPE bag (LDPE shrink pack) of min. thickness 0.062 mm as secondary packing. Now applicant has requested for 200, 400 ml and 600 ml pack sizes without secondary packing (LDPE shrink pack) for aerosol container. RC observed that Plastic Waste Management Rules, 2016 states that plastic material use for wrapping the material as manufacturing stage or is an integral part of manufacturing shall comply the following condition: (a) The packing material more than 50 μ thickness. (b) The packaging material shall be printed with plastic manufacturer details, type of plastic with code number and buy back price through Extended Producer Responsibility Plant (EPR). Further, LDPE shrink pack provides safety/sealing to the primary container aerosol and also helps in avoiding any accidental pressing of nozzle during transportation/storage at retailer/store. Hence RC approved the pack size of 600 ml only with secondary packing (LDPE shrink pack).

3.0 Government Business

3.1 PMO reference forwarding therewith representation of Shri V. V. Swaminathan ex-member of parliament – “Ban of some pesticides”.

The committee deliberated the agenda and decided to request DAC&FW to constitute a committee to review Glyphosate and Profenofos for continued use or otherwise in the country.
To

The Secretary (CIB&RC)
DPPQ&NH-IV,
Faridabad

Subject: Reference received from Government of Kerala requesting for banning of Glyphosate and all its derivatives u/s 27 of the Insecticides Act, 1968- regarding.

Sir,

I am directed to forward herewith a copy of letter No. NCA3/381/2018/Agri dated 20th June, 2019 on the subject mentioned above and to say that the competent authority has decided that the proposal of the State Government may be put up before the Registration Committee in its next meeting for deliberation.

2. It is further requested that the recommendations of the Registration Committee in the matter may be communicated to this Ministry immediately on priority for further necessary action.

End As above.

Yours faithfully,

(C.R Ajayi)
Under Secretary to the Government of India

Copy for (information) to:
The Plant Protection Adviser, DPPQ&S, NH-IV, Faridabad.
Subject: Fwd: Proposal received from Government of Kerala
To: "A.K. Reddy" <ak.reddy63@gov.in>
Cc: Dr. Sushil Khurana <sushilk_khurana06@yahoo.co.in>

Date: 08/02/19 05:25 PM
From: "Dr. S.K. Khurana" <cibsecy@nic.in>

----- Original Message -----
From: Ashok Kumar APPO <ashok.kumar70@gov.in>
Date: Aug 2, 2019 5:13:05 PM
Subject: Proposal received from Government of Kerala
To: "Dr. Khurana" <cibsecy@nic.in>
Cc: Rajesh Mallik <rajesh.mallik1@gov.in>, CRAJAYAN Under Secretary <cr.ajayan64@gov.in>, Brijesh Tripathi <brijesh.tripathi@nic.in>

Sir,

Please find attachment on the subject mentioned above for necessary action in the next meeting of RC.

Regards

Ashok Kumar
Assistant Plant Protection Officer (E)
Plant Protection-I
DAC&FW
Krishi Bhavan, New Delhi

श्री सुशील क. खुराना /Dr. Sushil K. Khurana
सचिव के की को. ग्राम परिवहन समिति/
Secretary, CIB&RC
कृषि विभाग मंत्री मंत्रालय /
Directorate of PPQ & Storage
मुख्य सचिवालय कृषि सूचना निदेश कार्यालय /
Ministry of Agriculture & Farmers Welfare
कृषि विभाग के की को. ग्राम परिवहन समिति/
Secretary of CIB and Registration Committee
उत्तराखंड-१२१ ००१/०७-IV, Faridabad-121001
Mobile Phone 91-129-2413802/ Fax: 91-129-2412125

वेबसाइट / Website: www.cibrc.gov.in
GOVERNMENT OF KERALA

No. NCA3/381/2018/Agri

Agriculture (NCA) Department,
Thiruvananthapuram,
Dated: 20/06/2019

From

Additional Chief Secretary to Government.

To

The Joint Secretary (PP),
Government of India,
Ministry of Agriculture & Farmers Welfare
Department of Agriculture, Cooperation &
Farmers Welfare, Krishi Bhawan,
New Delhi - 110001

Sir,

Sub: Agriculture Department – Recommendation for banning
Glyphosate and all its derivatives throughout the State of Kerala
as per the Insecticide Act, 1968 Section 27 (2) - Details
furnishing of - Reg.

Ref:- (1) GO (P) No. 39/2010/Agri dated 10/02/2010
(2) GO (Rt) No. 121/2019/Agri dated 02/02/2019
(3) Report dated 31/01/2019 received from the Kerala
Agricultural University
(4) Letter No. TD (1) 3371/19 dated 03/05/2019 from the
Director of Agriculture
(5) Report dated 31/05/2019 received from the Kerala
Agricultural University

Inviting your kind attention to the reference cited, I am to inform the
following:

(1) As per Government Order referred as 1st paper above, Government of Kerala have declared an organic policy which envisages a strategy to phase-out chemical pesticides and fertilizers from the farming sector with a detailed action plan as follows:

- Ensure phased restriction /ban of sale and use of chemical agricultural inputs such as fertilizers, pesticides, fungicides and weedicides parallel to
the implementation of the organic farming policy in the region.

- Through necessary legislation stop the sale and use of the highly toxic class 1a and 1b pesticides as a preliminary step.
- Declare and maintain ecologically sensitive areas with rich bio diversity and natural resource base (water bodies) as chemical pesticides and fertilizer free zones.
- Regulate the sale and use of pesticides through necessary legislations, enforcing a prescription based system ensuring that pesticides are sold only on a case to case basis after obtaining prescription from the Agricultural Officers.
- Review and regulate promotional activities and advertisements of pesticides as per the FAO Code of Conduct and Guidelines for Pesticide Use.

(2) The State Government have commenced organic farming promotional activities since 2002-03. The Agriculture Department has set up a cell for "Promotion of Sustainable Agriculture & Organic Farming". The Agriculture Department of Kerala is following the recommendations of Packages of Practices by Kerala Agricultural University. In order to popularise integrated pest management through the use of bio pesticides and bio control agents and to promote use of organic manures, Government conducts various campaign activities throughout the State to make the farmers and public aware of the negative impacts of the use of pesticides. It is the ultimate policy of Government to ensure safety of public, through use of safe food and preventing indiscriminate use of pesticides. As part of this, the Department of Agriculture in collaboration with Kerala Agricultural University is conducting a study on the pesticide residue contained in the samples of vegetables and fruits taken from various shops in the state from 01/01/2013 which is still continuing. The report received from Kerala Agricultural university shows that the fruits and vegetables contain pesticides in levels much more than the expected levels. This report is being published in the website of Department of Agriculture and given publicity through various mass media including newspapers. Hence the farmers and public are becoming more aware of the consequences of consuming fruits and vegetables containing pesticides.

(3) The Economic review report of 2018 reveals that though the insecticide and fungicide consumption have reduced by 17.26% in 2017-18 compared to 2015-16, the weedicide consumption has increased by 71.25%. Among the weedicides, Glyphosate is reported to be highly consumed. As per the recommendation of CIB&RC, Glyphosate is recommended only for tea plantations and non-cropped areas. It is reported that Glyphosate (weedicide) is being widely and indiscriminately used in paddy fields by farmers without the
prescription by the Agricultural Officers. The Director of Research, Kerala Agricultural University has reported (referred as 3rd above) that the surface casting activity of vertically burrowing earthworms (Lumbricus terrestris) almost ceased three weeks after herbicide application and reproduction of the soil dwellers was reduced by 56% within three months after herbicide application. The University has also reported in the same report that yet another study indicated that earthworms exposed to glyphosate (Roundup 360) showed a sharp decline in survival rate as well as the number of cocoons of the earthworm. It is further reported that honey bee navigation has been negatively affected, with potential long-term negative consequences for colony foraging success. Considering the report that the indiscriminate use of Glyphosate resulting in contamination of water bodies and causing serious health hazards and also as part of organic farming policy, Government of Kerala as per Government Order 2nd cited prohibited the sale, distribution and use of Glyphosate and its derivatives for 60 days throughout the State of Kerala on the basis of the Insecticide Act, 1968 Section 27 (1). The same was also published in the official Gazette of Kerala State (Copy enclosed).

(4) Now the Agricultural University has reported that (referred as 5th above) there are conflicting reports on carcinogenicity of glyphosate. The Agricultural University has further reported the following:

In March, 2015, International Agency for Research on Cancer (IARC), France, a subsidiary of the World Health Organization classified glyphosate as “probably carcinogenic to humans” (IARC, 2015). The evidence that glyphosate caused cancer in animals was considered “sufficient” and the evidence concerning the genotoxicity of the product, or its ability to damage DNA, was considered “strong”. Laboratory studies also have demonstrated the ability of glyphosate to induce genetic damage and oxidative stress in cells. The European Chemicals Agency (ECHA) found that glyphosate may cause grave damage to the eyes and could be toxic to aquatic organisms with long-term effects.

(5) The Agricultural University has also included the following points in their report:

Thousands of lawsuits were filed in courts across United States against M/s Monsanto, the manufacturer of Glyphosate in 2016 following the report by the International Agency for Research on Cancer (IARC), published in 2015, indicating that glyphosate was probably carcinogenic to humans. A lawsuit filed by Mr Edwin Hardeman in California, claiming that glyphosate, which he has been using for nearly 30 years, was responsible for his contracting non-Hodgkins lymphoma (NHL), a type of cancer, was selected as a bellwether trial.
(a trial that would inform future litigations) in a multidistrict litigation. The trial was even more significant because it sought to address the question as to whether the use of the herbicide glyphosate could cause NHL, in a scientific manner. The court also accepted, on the basis of the scientific evidences presented before it, the argument that exposure to glyphosate could result in genotoxicity and oxidative stress at cellular level. It was concluded that “Evidence that glyphosate could cause damage to the genetic material in cells (genotoxicity) or an imbalance between the production of reactive oxygen species and antioxidant defenses in a cell (oxidative stress) supported the argument that it is biologically plausible that glyphosate could act as a carcinogen”. After examining the various evidences and testimonials, the court ruled “that there is enough evidence to show that glyphosate can cause NHL at human-relevant doses”. Evidences available suggest that glyphosate affects non-target organisms in several ways. It has been reported as adversely affecting soil-dwelling earthworms as well as soil microflora. The survival as well as surface casting activity of vertically burrowing earthworms (Lumbricus terrestris) declined significantly following glyphosate application (Gaupp-Berghausen et al., 2015, Stellin et al., 2018). These studies broadly concur with the studies conducted at Kerala Agricultural University (Shitha et al., 2017). Studies have showed that exposure of honey bee to glyphosate impaired the cognitive abilities of bees, rendering them incapable of returning to the hives after foraging (Balbuena et al., 2015). Glyphosate and commercially formulated products containing Polyoxyethylene tallow amine (POEA) surfactant were also toxic to fish and to some aquatic invertebrates (Cox, 1995, KAU 2016). Farmers commonly resort to repeated applications of glyphosate to control weeds regenerating from seeds or through vegetative means. Studies have shown that, incidence of showers within six hours of spraying of the herbicide leads to washing off of nearly seventy per cent of glyphosate from the plant surfaces (Sundaram, 2008) and subsequent contamination of water bodies by run off. As Kerala averages 120 to 140 rainy days per year with sudden and heavy downpours, there is serious risk of run off and accumulation of glyphosate, especially in low lying areas and fragile ecosystems such as Kuttanad. The persistence of the molecule and its primary metabolite in soil, with attendant adverse effects on non-target organisms including earthworm and bee pollinators is an added concern.

(6) Hence reviewing the scientific evidences on the harmful effect of glyphosate on humans and other essential non-target organisms and in tune with the “precautionary principle” that is integral to the State’s policy on environment and human health, Kerala Agricultural University has recommended (referred as 5th above) the ban on the use of glyphosate and all its derivatives in the state of Kerala with immediate effect. The Director of Agriculture as per letter 4th cited above has requested to keep on the banning of Glyphosate.
(7) Government of Kerala have examined the reports referred as 3rd and 5th cited. Considering the recommendations of Kerala Agricultural University and Director of Agriculture, Government of Kerala kindly request and strongly recommend to prohibit the sale, distribution and use of Glyphosate and its derivatives throughout the State of Kerala with immediate effect as per the Insecticide Act, 1968 Section 27 (2).

Yours faithfully,

[Signature]

DEVENDRA KUMAR SINGH IAS
Additional Chief Secretary &
Agriculture Production Commissioner

Encl: Reference
(1) (Pages 1-27)
(2) (Pages 1-8) (including English translation)
(3) (Pages 1-4)
(4) (Pages 1-3) (including English translation)
(5) (Pages 1-4)
Agriculture Department - Prohibition of the sale, distribution and use of Glyphosate and its derivatives for 60 days throughout the State of Kerala as per the Insecticide Act, 1968 - Orders issued.

AGRICULTURE (NCA) DEPARTMENT
G.O.(Rt.) No. 121 /2019/Agri Dated 02/02/2019, Thiruvananthapuram,

Read:-
1) G.O. (P) No.39/2010/Agri dated 10/02/2010
2) G.O. (Ms) 310/2010/Agri dated 02/12/2010
3) G.O. (Ms) No.22/2011/Agri dated 17/01/2011
4) GO (Ms) No.116/2011/Agri dated 07/05/2011
5) GO (Ms) 128/2015/Agri dated 28/07/2015
6) Report dated 31/01/2019 received from the Registrar, Kerala Agricultural University
7) Letter No. TD (1) 3371/19 dated 30/01/2019 from the Director of Agriculture

ORDER

As per Government Order referred as 1st paper above Government of Kerala have declared an organic policy. As the first step in implementing the aim of Kerala a chemical pesticide free state the highly toxic pesticides labelled dark red and dark yellow were prohibited as per Government Order read as 2nd paper above. Guidelines were issued for controlling use and distribution of pesticides in Kerala as per Government Order read as 3rd paper above. As a follow-up action for implementing the organic policy, toxic and harmful to human life red labelled pesticides such as Carbofuran, Phorate, Methyl Parathion, Monocrotophos, Methyl Demeton, yellow labelled pesticides such as Triazophos, Prephenophos, fungicides such as Ediphenphos, Tricyclazole, Oxathiaquinunox and weedicides such as Anilophos, Paraquat, Thiobencarb, Atrazin those were highly toxic and harmful to human life had been prohibited as per Government Order read as 4th paper above.

As per Government Order read as 5th paper above the use of red labelled pesticides such as Methomyl and MEMC were prohibited. Moreover the sale and use of yellow labelled pesticides such as Carbosulphan, Chlorpyriphos, Cypermethrin, Lambda Cyhalothrin, blue labelled Aecphate and weedicides such as 2,4,D, Glyphosate were limited only on extreme necessities based on the prescription given by the Agricultural Officers.
The Economic review report of 2018 reveals that though the insecticide and fungicide consumption have reduced by 17.26% in 2017-18 compared to 2015-16. At the same time the weedicide consumption has increased by 71.25%. During 2017-18 318.476 ton weedicides were used in the farms of Kerala. Among them Glyphosate is reported to be highly consumed (129.436 ton). It is noticed that though the usage of the weedicide is being restricted by the Government Order read as 5th paper above, it is being widely used on farms by farmers without the prescription by the Agricultural Officers. Glyphosate is widely used in paddy fields before cultivation. Large quantities of weedicides transporting to the water bodies shall be adversely affected to the human life, habitat and nature. The same was evaluated in the meeting on the issue convened on 29/01/2019. In the context of the implementation of organic farming unscientific use of weedicide such Glyphosate may lead to deadly diseases.

The Countries such as California, Belgium, New Zealand, Portugal have restricted the use of Glyphosate. In the light of the findings by the PGIMER (Post Graduate Institute of Medical Education & Research, Chandigarh) the State of Punjab prohibited the use of Glyphosate which is very harmful to human health on 23/10/2018. The reports of PGIMER also indicates that the use of Glyphosate not only causes Group A cancer but also causes other health problems and badly affects human DNA.

The Agricultural University has reported that overuse of Glyphosate causes health problems to the human and other animals and also adversely affects earthworms and non target organisms. It has also reported that the potential impact of the herbicide on bee pollinators as well as the possible development of Glyphosate resistant weeds also compel closer examination of the advisability of continued use of Glyphosate in fragile ecosystem like that of Kuttanad and Kole areas. Hence the Agricultural University read as 6th paper above has reported to restrict the use of herbicide based on Glyphosate immediately.

More restrictions on the use of Glyphosate should be made to strengthen the efforts for transforming Kerala State into a fully organic State. The Director of Agriculture read as 7th paper above has reported that it would be better to prohibit the use of Glyphosate in Kerala on the basis of the study report of the Kerala Agricultural University and detailed discussions in this regard.

Government examined the matter in detail and are pleased to prohibit the sale, distribution and use of Glyphosate and its derivatives throughout the State of Kerala as per Section 27 (1) of Insecticide Act 1968 for a period of 60 days from the issuance of the date of order.
The Registrar, Kerala Agricultural University shall submit report within 60 days after conducting investigation into the bio safety of Glyphosate.

(By Order of the Governor),
(Sd/-)
Dr. Rathan U. Kelkar IAS
Special Secretary

To

The Director of Agriculture, Thiruvananthapuram
(For implementing the Government Order immediately)
The Director, Food Safety Department, Thiruvananthapuram
The Registrar, Kerala Agricultural University, Vellanikara, Mannuthy, Thrissur
The Member Secretary, Bio Diversity Board, Thiruvananthapuram
The Member Secretary, State Planning Board, Thiruvananthapuram
All Principal Agricultural Officers
The Accountant General (Audit/A&E), Thiruvananthapuram
The Principal Information Officer, Farm Information Bureau, Thiruvananthapuram
Kerala State Pollution Control Board, Thiruvananthapuram
Health & Family Welfare Department
Environment Department
Local Self Government Department
Information & Public Relations Department, Thiruvananthapuram
Stock File / Office Copy
Note on Glyphosate

Glyphosate [N-(phosphonomethyl) glycine] is a systemic, organophosphate, broad spectrum, post emergent herbicide used for the control of grasses as well as broad leaved weeds. In plants, glyphosate disrupts the shikimic acid pathway through inhibition of the enzyme 5-enolpyruvylshikimate-3-phosphate (EPSP) synthase. The resulting deficiency in EPSP production leads to reductions in aromatic amino acids that are vital for protein synthesis and plant growth.

Glyphosate is absorbed across the leaves and stems of plants and is translocated throughout the plant. It concentrates in the meristem tissue. Plants exposed to glyphosate display stunted growth, loss of green coloration, leaf wrinkling or malformation, and tissue death. Death of the plant may take from 4 to 20 days to occur. Glyphosate has no residual herbicidal activity.

Glyphosate is one of the most widely used agrochemicals in the world. It is marketed in several trade names but is most popular as ‘Roundup’, marketed by M/S Monsanto Corporation, U.S.A. In the US, glyphosate use has increased by more than 250-fold in the past 4 decades — from 0.4 million kg in 1974 to 113 million kg in 2014. Global use has also increased from 3200 tons/year in 1974 to 825,000 tons/year in 2014, and glyphosate is now used in over 140 countries. Its use is projected to continue to increase, and by 2020 is estimated to reach one million tons per year. It is considered as having low toxicity, based on the LD50 values (oral for rats-4000 mg/kg body weight; dermal for rat-2000 mg/kg).

Environmental fate

The reported Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) values for glyphosate have been less than 2 mg/l and 0.53 g/g respectively, which suggests that the molecule is not easily biodegradable. It is also a strong chelating agent, leading to immobilization of the mineral micronutrients of the soil such as calcium, iron, magnesium, manganese, nickel, zinc etc., making them unavailable to plants. The time, estimated in the laboratory, necessary to degrade 50% of glyphosate present in the water is less than 14 days in aerobic conditions and about 14–22 days in anaerobic conditions, while for the glyphosate present in the soil the degradation time in aerobic conditions is about 2–3 days.

In general, the total concentration of glyphosate in the ground varies from 4 to 180 days depending on soil properties, making it therefore a potentially contaminating substance for soil and likely for groundwater as well. Numerous laboratory studies have shown that the adsorption constant of the molecule in the soil varies between 8 and 377 dm³/kg, depending on the characteristics and composition of the soil (clay, sand, or gravel). This coefficient value indicates a high adsorption in the soil. In water, the half-life of glyphosate varies from a few days to 91 days.

In contact with water, glyphosate quickly transforms into its main metabolite, amino methyl phosphonic acid (AMPA), which maintains all the toxic characteristics of its precursor and is even more persistent, with a half-life that ranges from 76 to 240 days.
Effect on human health

Environmental Protection Agency (EPA) in its valuation in 2010 concluded that glyphosate has low risk of carcinogenicity, endocrine disruption and teratogenic effects.

In March 2015, the International Agency for Research on Cancer (IARC) in France, a subsidiary of the World Health Organization classified glyphosate as "probably carcinogenic to humans". The evidence that glyphosate caused cancer in animals was considered "sufficient" and the evidence concerning the genotoxicity of the product, or its ability to damage DNA, was considered "strong". Laboratory studies also have demonstrated the ability of glyphosate to induce genetic damage and oxidative stress in cells. However, in November 2015, the EFSA (European Food Safety Agency) deemed glyphosate "unlikely to pose a cancer risk for man". That conclusion was based on a glyphosate renewal assessment report (RAR) presented in January 2014 by the Federal German Institute for Risk Assessment.

In March 2017, the European Chemicals Agency (ECHA) looked into the issue of glyphosate toxicity. The ECHA’s Risk Assessment Committee analysed an enormous amount of scientific data and concluded that “the scientific evidence so far available does not satisfy the criteria for classifying glyphosate as carcinogenic, mutagenic or toxic for reproduction.” According to the ECHA, glyphosate may cause grave damage to the eyes and be toxic to aquatic organisms with long-term effects.

In November 2017, the EU voted to extend glyphosate authorization for an abbreviated period of five years and the Acceptable Daily Intake (ADI) was increased from 0.3 to 0.5 mg/kg bw/day.

The above findings and the actions of regulatory bodies have been hotly contested by civil society organizations and environmentalists alike. They have pointed out that differences in methods of assessment have led to diametrically opposite conclusion by EFSA.

In 2018, a California jury ruled that Roundup® could have caused the terminal cancer in a groundskeeper of a school, who was exposed to glyphosate. The jury directed Monsanto Corporation to pay compensation for damages.

Effect on non-target organisms

Evidences available suggest that glyphosate affects non-target organisms in several ways. It has been reported as causing reduced reproduction of soil-dwelling earthworms and affecting the growth of microalgae and aquatic bacteria. Glyphosate is also associated with changes in plant endophytic and rhizosphere microbiomes and with disturbances of gut microbiota of animals living near agricultural sites.

The surface casting activity of vertically burrowing earthworms (Lumbricus terrestris) almost ceased three weeks after herbicide application, while the activity of soil dwelling earthworms (Aporrectodea caliginosa) was not affected. Reproduction of the soil dwellers was reduced by 56% within three months after herbicide application.
Yet another study indicated that earthworms exposed to glyphosate (Roundup 360°) showed a sharp decline in survival rate as well as in the number of cocoons of the earthworm Lumbricus terrestris.

Studies on exposure of honey bee Apis mellifera to levels of glyphosate commonly found in agricultural settings impaired the cognitive capacities needed to retrieve and integrate spatial information for a successful return to the hive. Honey bee navigation was concluded to have been negatively affected, with potential long-term negative consequences for colony foraging success. Another study has suggested that exposure to glyphosate might lead to change in activity of gut microflora in honeybees, resulting in increased susceptibility to infections.

Conclusion

The above information, while does not conclusively establish glyphosate as a carcinogen, a teratogenic or a disruptor of endocrine system in higher organisms including human beings, does raise questions about the impact of widespread contamination by the large scale use of the herbicide. The persistence of the molecule and its primary metabolite in soil, with attendant adverse effects on non-target organisms is an added concern. The potential impact of the herbicide on bee pollinators as well as the possible development of glyphosate resistant weeds also compel closer examination of the advisability of continued use of glyphosate in fragile ecosystems like that of Kuttanad and kola areas. The fact that Kerala is a hot spot of biodiversity and endowed with a vast network of water bodies, diverse agroecosystems and high population density also needs to be considered.

Under the circumstances, it is considered prudent to restrict the use of all herbicides based on glyphosate and its derivatives with immediate effect, till its biosafety is established beyond all reasonable doubt.

References


Vellanikkara

31.01.2019

Director of Research

Kerala Agricultural University

Prof. (Dr.) P. Indira Devi
Director of Research

Scanned by CamScanner
Opinion about the Report on Biosafety of Glyphosate by KAU

Vide GO Rt No.121/2019/Agri dated 2/2/2019 the weedicides Glyphosate is banned in Kerala and as per the direction from Government, KAU has submitted a report regarding the biosafety of glyphosate. In the report it is mentioned that even though the toxicity level of glyphosate is less when compared with other weedicides like 2,4 D and Diuron, its carcinogenicity level is very high and can also induce genetic damage. In the report it is also mentioned that according to ECHA (European Chemical Agency) glyphosate may cause grave damage to the eyes and be toxic to aquatic organisms. It is also reported that in a recent verdict, Californian court has ruled that glyphosate is a substantial factor in causing non-Hodjkin lymphoma, a form of cancer in human beings. It also affects adversely in non-target organisms like earthworms (its reproduction will be affected), bacteria and algae and other beneficiary microbes of the soil.

Moreover it is reported that the exposure of honey bees to the levels of glyphosate commonly found in agricultural settings is impairing the cognitive capacities of honey bees which is needed to integrate special information for a successful return to the hive.

The report in conclusion says that glyphosate can be used in tea plantations and in non-agricultural land in a controlled manner. Since tea is cultivated in hilly tracts application of glyphosate during rainy season may lead to washing down of the chemical from plant surfaces and reaching the soil and entering water bodies by run off. Studies of Kerala Agricultural University itself showed that persistence of residue of this weedicide is in the water even 30 days after spraying. Also that when glyphosate is used to control the weed salvinia in water bodies containing fish, it caused damage to gills, liver, kidneys and ovaries of fish. Soil application of these weedicide resulted disappearance of earthworms from the vicinity of the treated area. Continuous use of these chemicals in soil adversely affects the reproduction of earthworms which leads to decrease in their population and other soil microbes. Such depletion of beneficial organism from the soil leads to poor health of the soil.

The first part of the report explains the adverse effects caused by this weedicide in the soil, water, habitat of soil organisms and ecosystem. Considering the above facts suggestion of KAU (use of these weedicide in controlled manner) cannot be accepted. So the status imposed on the weedicide Glyphosate and its derivatives is to be continued.
GA/D2/3257/2019

From

The Registrar

To

The Principal Secretary to Government,
Agricultural Department,
Government Secretariat,
Thiruvananthapuram.

Sir,

Sub:- KAU — General Administration - Banning of the pesticide glyphosate — reg.

As instructed in the letter referred above, the report on Glyphosate is enclosed herewith for your kind information and necessary action.

Yours faithfully,

[Signature]

REGISTRAR
Kerala Agricultural University
KAU P.O., Thrissur - 680 656
Biosafety of glyphosate- update

Background

Glyphosate, (N-phosphonomethyl glycine), commercially available as “Round up”, “Glycel”, “Weed off”, etc., is a systemic, broad spectrum, post emergence herbicide. It is absorbed through different plant parts such as stem and leaves and is translocated throughout the plant. After spraying glyphosate, plants dry up in 4 to 20 days. It is used for targeted application in cropped as well as non-cropped areas for the control of all types of weeds. Introduced by M/s Monsanto in 1974, it is a very effective and widely used herbicide across the world for weed management. In India, glyphosate is registered for use in tea as well as non cropped area (CIB RC). In Kerala, it is widely used for weed management in virtually all cropping ecosystems including paddy.

Effect on human health

Several questions have been raised regarding the safety of glyphosate to non target organisms, including humans. Monsanto has consistently maintained that the herbicide is safe to humans, when applied as per the directions. This has also been echoed by Environmental Protection Agency (EPA) of USA and several regulatory agencies.

Toxicological studies indicate glyphosate to be much safer to higher organisms compared to other herbicides in the market. For instance, the acceptable daily intake of glyphosate is 0.3 mg/kg, which is 100 times more than cyhalofop-butyl, 30 times more than 2,4-D and 15 times more than diuron. The no-observed-adverse-effect-level (NOAEL) for glyphosate is 200 mg/kg diet, while for cyhalofop -butyl, a common herbicide in rice, it is 3 mg/kg diet. The carcinogenicity level is 300 mg/kg per day which is comparatively much higher than for most other herbicides. WHO has classified glyphosate as slightly toxic to mammals, based on relatively high oral and dermal LD50 values above 2000mg/kg body weight (Pesticide Properties Database, PPDB, 2019).

However, there are conflicting reports on carcinogenicity of glyphosate. EPA reported that glyphosate has low risk of carcinogenicity, endocrine disruption and teratogenic effects (EPA, 2010). In March, 2015, International Agency for Research on Cancer (IARC), France, a subsidiary of the World Health Organization classified glyphosate as “probably carcinogenic to humans” (IARC, 2015). The evidence that glyphosate caused cancer in animals was considered “sufficient” and the evidence concerning the genotoxicity of the product, or its ability to damage DNA, was considered “strong”. Laboratory studies also have demonstrated the ability of glyphosate to induce genetic damage and oxidative stress in cells. However, in November, 2015, European Food Safety Agency (EFSA, 2015) deemed glyphosate “unlikely to pose a cancer risk for man” based on a glyphosate renewal assessment report (RAR) presented in January 2014 by the Federal German Institute for Risk Assessment.

In March 2017, the European Chemicals Agency (ECHA) looked into the issue of glyphosate toxicity. The ECHA’s Risk Assessment Committee analyzed an enormous amount of scientific data and concluded that “the scientific evidence so far available does not satisfy
the criteria for classifying glyphosate as carcinogenic, mutagenic or toxic for reproduction." (ECHA, 2017). However, ECHA found that glyphosate may cause grave damage to the eyes and could be toxic to aquatic organisms with long-term effects.

In November 2017, the EU voted to extend glyphosate authorization for an abbreviated period of five years and the Acceptable Daily Intake (ADI) was increased from 0.3 to 0.5 mg/kg body weight/day.

Litigations concerning glyphosate

Thousands of lawsuits were filed in courts across United States against M/s Monsanto, the manufacturer of Glyphosate in 2016 following the report by the International Agency for Research on Cancer (IARC), published in 2015, indicating that glyphosate was probably carcinogenic to humans. A lawsuit filed by Mr Edwin Hardeman in California, claiming that glyphosate, which he had been using for nearly 30 years, was responsible for his contracting non Hodgkins lymphoma (NHL), a type of cancer, was selected as a bellwether trial (a trial that would inform future litigations) in a multidistrict litigation. The trial was even more significant because it sought to address the question as to whether the use of the herbicide glyphosate could cause NHL, in a scientific manner.

Three types of evidences, namely, epidemiological studies, studies on animals and studies on the mechanism of action of glyphosate at cellular levels were presented before the court. Nearly thirteen experts testified on behalf of the plaintiff as well as the defendant.

Most epidemiological studies indicated an association between glyphosate use and NHL, though this was often statistically not significant. However, animal studies, particularly those by IARC (IARC, 2015) which stated that “a causal relationship has been established between glyphosate and an increased incidence of malignant neoplasms or of an appropriate combination of benign and malignant neoplasms” were found to be quite significant by the court.

The court also accepted, on the basis of the scientific evidences presented before it, the argument that exposure to glyphosate could result in genotoxicity and oxidative stress at cellular level. It was concluded that “Evidence that glyphosate could cause damage to the genetic material in cells (genotoxicity) or an imbalance between the production of reactive oxygen species and antioxidant defenses in a cell (oxidative stress) supported the argument that it is biologically plausible that glyphosate could act as a carcinogen”.

After examining the various evidences and testimonials, the court, ruled “that there is enough evidence to show that glyphosate can cause NHL at human-relevant doses”.

Effect on non-target organisms

Evidences available suggest that glyphosate affects non-target organisms in several ways. It has been reported as adversely affecting soil-dwelling earthworms as well as soil microflora. The survival as well as surface casting activity of vertically burrowing earthworms (Lumbricus terrestris) declined significantly following glyphosate application (Gaupp-Berghausen et al., 2015, Stelmin et al., 2018). These studies broadly concur with the studies conducted at Kerala Agricultural University (Shithn et al., 2017). Studies have
showed that exposure of honey bee to glyphosate impaired the cognitive abilities of bees, rendering them incapable of returning to the hives after foraging (Balbuena et al., 2015). Glyphosate and commercially formulated products containing Polyoxyethylene tallow amine (POEA) surfactant were also toxic to fish and to some aquatic invertebrates (Cox, 1995, KAU 2016).

Farmers commonly resort to repeated applications of glyphosate to control weeds regenerating from seeds or through vegetative means. Studies have shown that, incidence of showers within six hours of spraying of the herbicide leads to washing off of nearly seventy per cent of glyphosate from the plant surfaces (Sundaram, 2008) and subsequent contamination of water bodies by runoff. As Kerala averages 120 to 140 rainy days per year with sudden and heavy downpours, there is serious risk of runoff and accumulation of glyphosate, especially in low lying areas and fragile ecosystems such as Kuttanad. The persistence of the molecule and its primary metabolite in soil, with attendant adverse effects on non-target organisms including earthworm and bee pollinators is an added concern.

RECOMMENDATION

Upon reviewing the scientific evidences on the harmful effect of glyphosate on humans and other essential non-target organisms and in tune with the “precautionary principle” that is integral to the State’s policy on environment and human health, Kerala Agricultural University would like to update its earlier advise and recommend a ban on the use of glyphosate and all its derivatives in the state of Kerala with immediate effect.

Chairperson: Dr. Meera V. Menon
Professor & P.I., AICRP (Weed Management), CoH, Vellanikkara

Members:
1. Dr. C. George Thomas
Associate Dean, College of Horticulture, Vellanikkara

2. Dr. P. Sureshkumar
Professor & Head, Radiotracer Laboratory, CoH, Vellanikkara

3. Dr. K.M. Durga Devi
Professor, Dept. of Soil Science & Agrl. Chemistry, CoH, Vellanikkara

4. Dr. Madhu Subramanian
Assoc. Professor & Head, AICRP (BCCP), CoH, Vellanikkara

5. Dr. Ambily Paul
Assistant Professor, Pesticide Residue Lab, CoA, Vellayani

Vellanikkara
31.05.2019
### Government Business

#### 3.0

**3.1 Custom objection for export of pesticide with old registration certificate**

The RC deliberated the agenda in detail and decided to amend the condition of registration of M/s UPL Ltd for Tricyclazole 75% WP as under:

"The product is registered for domestic as well as for export and in case of export primary packaging shall be as per the requirement of importing country"

Further the RC decided that the above condition should be incorporated on all the certificate of registration issued earlier for domestic use and a public notice in this regard may be issued by Secretariat of CIB&RC for the benefit of all the registrants.

#### 3.2 Complaint from Taiwan Sinon Corporation (received through Taipei Economic and Cultural Center in India) regarding misuse of the name of firm for import of *Paraquat Dichloride Technical* into India.

On the basis of the investigation carried out by the Techno Legal Cell, DPPQ&S a show cause notice shall be issued by the Secretariat of CIB&RC to M/s Sterling Enterprises and M/s Tarun Chemicals for cancellation of certificates of registration issued to both the firms giving the applicant 30 days time to submit reply. RC further decided that no new registration certificate shall be issued to these firms till further decision of the RC.

#### 3.3 Reference received from Government of Kerala requesting for banning of *Glyphosate* and all its derivatives u/s 27 (2) of the Insecticides Act.

The RC deliberated the agenda and noted that on the basis of the reference received from other quarters, RC in its 404th meeting at agenda item no 3.1 has already decided to refer the matter to the DAC&FW to constitute an expert committee to review the pesticides for banning.

#### 3.4 Sub-committee report on crop grouping

RC deliberated the agenda and approved as *Annexure-3.4.1*. The RC appreciated the efforts made by the Sub-Committee.

#### 3.5 Harmonization of existing toxicological guidelines/protocols for registration of bio-pesticides in India

Chairman of the sub-committee was requested to make presentation in next RC.

### Export Cases

#### 4.0

**Export Cases**

#### 4.1 List under section 9(3) Export applications -

The Agenda was deliberated in detail & approved the cases as per *Annexure 4.1.1, 4.1.2, 4.1.3 and 4.1.4* except the product at S. No. 58 to 62 of *Annexure-4.1.1* and SL. No. 4 of *Annexure-4.1.4*. The Committee further decided that the applications of import for export category shall be subjected to the decision taken by the Committee in its 356th meeting. It was also directed to recheck cases and should strictly follow Gazette Notification SO 3951 (E) dated 08.08.2018 published on 09.08.2018 of Ministry of Agriculture, Cooperation and Farmers Welfare while issuing approvals.

#### 4.2 Consideration of application of M/s Insecticides India Ltd., Delhi for grant of registration of *Probenazole Technical 95.00% min.* for Indigenous Manufacture for Export only under section 9(3) Export.
Review of pesticides with respect to agenda item No 11.2 and 11.4 of 409 RC meeting (Twenty seven pesticides recommended to be continued but to be reviewed after completion of the studies recommended by Dr Anupam Varma/RC, Neonicotinoids, Glyphosate and Profenofos) - reg

C) Glyphosate: The available literature on public domain along with relevant scientific articles with respect to Glyphosate along with list of alternative are at Annexure XIV.

Follow up action of agenda item no. 1.5 [Review of pesticides with respect to agenda item No 11.2 and 11.4 of 409 RC meeting (Twenty seven pesticides recommended to be continued but to be reviewed after completion of the studies recommended by Dr Anupam Varma/RC, Neonicotinoids, Glyphosate and Profenofos)] of 410th RC held 05/11/2019 - reg.

C) Glyphosate

The use of glyphosate can be restricted to combating to various weeds which are of concern in non-agriculture area. It should be allowed to be used by pest control operators. RC may define its utility on non-agricultural land which should not include weeds in the water. The cautionary statement on label/leaflets should be deliberated for revision. The label claims on tea should also be deliberated in view of certain studies on public domain labelling, having mutagenic potentials; positive in vivo studies. This should be discussed along with its alternatives literature.

The available literature on public domain along with relevant scientific articles with respect to Glyphosate along with list of alternative are appended at Annexure XIV of Agenda item No. 1.5 of 410th RC.