

Minutes of the Fourth Management Committee Meeting of COST Action CA15223 “Modifying plants to produce interfering RNA”

Oeiras Lisbon Portugal 1.3.2019

1. Welcome to participants

The 4th iPLANTA MC meeting started at 9.00. The participants were welcomed by Prof. Bruno Mezzetti, Chair of the Action, and by Dr. Jeremy Sweet, Vice Chair of the Action. Bruno Mezzetti chaired the MC Meeting.

2. Verification of the presence of two-thirds of the Participating COST Countries or, if applicable, a quorum

CSO Approval: 26/02/2016

Start of the Action: 27/10 /2016

End of Action: **26/10/2020**

Total number of COST Countries having accepted the MoU: 32

The quorum (2/3 of COST Countries participating in the Action) was reached: 28 country representatives (PT, IT, PL, DE, ES, BE, HR, NL, TR, UK, HU, DK, MK, CZ, NO, BG, SI, FR, SK, EE, EL, RS, IE, BA, Fi, RO, LT) out of 32 iPlanta MoU signatory countries attended the meeting (COST doc. 134/14 B.2 “COST Action Management, Monitoring and Final Assessment” Annex I, Article 8). The MC meeting was open and several experts attending the 3rd iPlanta conference also attended the MC meeting.



Group photo of the 4th iPLANTA Conference – Oeiras 1.3.2019

3. Adoption of agenda

The agenda (**Annex 1**) for the 4th Management Committee (MC) meeting was adopted.

Inclusiveness Target Countries: Bosnia-Herzegovina, Bulgaria, Cyprus, Czech Republic, Estonia, Croatia, Hungary, Lithuania, Latvia, Luxembourg, Malta, Montenegro, Poland, Portugal, Romania, Slovenia, Slovakia, the former Yugoslav Republic of Macedonia, Republic of Serbia and Turkey.



4. Approval of minutes and matters arising of last meeting

The Chair asked the MC members to approve the minutes of the 3rd MC meeting held in Poznan (PO) on 16.2.18. The agenda was approved with unanimity.

5. Update from the Action Chair

a) *Status of Action: start and end dates of Action, participating COST countries, participating NNC/ IPC institutions and Specific Organisations*

The Chair reported that the action started the **27/10/2016** and will end the **26/10/2020**. The Action signatory countries are 32, plus 2 NCC and 1 ICP. Contacts with other NNC/IPC institutions and specific organizations are in act and their involvement will be discussed. The Chair thanked the WG leaders for the fruitful activities carried out during Grant Period 2 of iPLANTA and the local organizer of the second iPLANTA conference for the great contribution given in the organization and management of a successful event. Finally, the Chair invited all partners to stay connected with the accounts opened for the project on Twitter (@IPLANTA1) and on Facebook (group COST iPLANTA).

b) participating COST countries,

The Action MoU is now signed by 32, the last one is Lithuania. A MC Delegate from Lithuania attended the Conference and the MC meeting.

c) participating NNC/IPC institutions and Specific Organizations.

NNC Approved: Armenia, Jordan

ICP Approved: Brasil – The request from Uruguay is under processing

6. Update from the COST Association, if a representative is present

The representative of COST Association was not able to attend the meeting.

7. Follow-up of MoU objectives: progress report of working groups

Each WGL had a short report of the activities carried out during GP3.

WGs Activities

Guy Smagge reported on WG1 on activities carried out in GP3

The activities of WG1 in GP3 had two main goals: research coordination and capacity building. For this we organized a workshop of 2 days (17-18 July 2018) for research coordination with topics on mechanisms of RNAi, virus interaction and evolution of RNAi systems. 15 people participated from 7 countries (Italy, France, Belgium, Greece, UK, Spain, Turkey). In second WG1 organized an expert workshop to stimulate capacity building and networking with experts on biosafety aspects for pesticides and microorganisms in sustainable crop protection. We joined the IOBC (International Organisation of Biological and Integrated Control) Pesticides & Beneficials working group, that was organized in Zadar in 30/9/2018-4/10/2018, with a session on RNAi. Four COST action members participated with 4 oral lectures and 3 posters. This activity contributed to the deliverable to better understand RNAi mechanisms in NTOs, compatibility of RNAi technology in crop protection with natural enemies as entomopathogenic viruses, predators and other beneficial organisms. This workshop contributes to building a network on biosafety for RNAi-based products together with the IOBC as an international leading organization in sustainable crop protection. In GP3, the WG1 helped in organizing and mentoring different STSM training programmes. Contributing

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to fill the knowledge gaps on RNAi, WG1 encouraged young career scientists. The obtained results have been submitted to an international peer-reviewed journal. The acknowledgements show “We thank support by COST (European Cooperation in Science and Technology) under grant agreement No. CA15223.” The WG1 as the lead group on RNAi technology pursues its effective progress about the use and the exploitation of mi and siRNA in experimental plants and model crops. In GP3, we are assisting and contributing in the concepts of the RNAi book with CABI and both the opinion paper and the Position paper that are both proposed as an outreach activity of iPlanta.

Huw Jones reported on WG2 on activities carried out in GP3

Wg2 activities for GP3 were focused mainly on a joint meeting and training school at Rothamsted research centre in the UK entitled “RNAi applications from lab to field”. The first day speakers focused on topical application, sprayable RNAi (formulation, stabilization) for pest and disease resistance, 53 people attended the meeting. Training school: focused on the transition from lab to field, GM field trials, how to prepare application for authorities, experiences. Students visited Rothamsted glasshouses and field experiments. WG2 also sought authors for the CABI text book on RNAi and contributed to the opinion paper.

WG2 publications dissemination activities:

- Y Sun, C Sparks, HD Jones, M Riley, F Francis, W Du, L Xia (2019). Silencing an essential gene involved in infestation and digestion in grain aphid through plant-mediated RNA interference generates aphid-resistant wheat plants. *Plant Biotechnology Journal* on line early
DOI: 10.1111/pbi.13067. <https://doi.org/10.1111/pbi.13067>
- Sabbadini S., Ricci A., Limera C., Baldoni D., Capriotti L., Mezzetti B. (2019) Regeneration of peach rootstock Hansen 536 somatic tissues and selection of transgenic calli expressing a hairpin construct against PPV virus. *Plant Cell Reports* (*Submitted*)

Salvatore Arpaia and Antje Dietz-Pfeilstetter reported on WG3 on activities carried out in GP3

One WG3 activity was a working group meeting organised in Naples in July 2018 as a joint meeting between iPLANTA COST Action and the European Congress of Entomology. The meeting was split in two sessions: 1. WG3 meeting on risk assessment aspects of dsRNA applications, which was open to all congress attendees, 2. Scientific session within the Entomology Congress on the Use of RNAi for insect control, 36 attendees. During the first session WG3 deliverables were presented and discussed: preparation of a list of data useful for environmental safety assessment of RNAi applications, development of specific biosafety protocols for RNAi, comparison of the input from scientific community and match with EU legal framework, reviews on biosafety issues, need to choose some case studies representing specific types of RNAi applications.

An upcoming activity in GP3 is the organization of a ½ day workshop on “Biosafety of RNAi applications for plant protection” during the 15th ISBR Symposium in Tarragona in April 2019, following an invitation by the Symposium organizers. Aim of the workshop is to consider data requirements for risk assessments of different RNAi approaches (GM plants vs dsRNA pesticides).

WG2 publications dissemination activities:

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1. Assessing the safety of dsRNA targeting *Leptinotarsa decemlineata* to the predator *Chrysoperla carnea*. S. Arpaia, O. Christiaens, I. Urru, G. Smagghe,

Presented at:

- European Congress of Entomology, Naples, July 2018
- Meeting of the IOBC Working Group "Pesticides and Beneficial Organisms", Zadar, October 2018
- Joint Congress of the Entomological Society of America and Canada, Vancouver, November 2018

2. RNAi research and development in relation to crop protection in Europe: the iPLANTA COST Action activities, Salvatore Arpaia, Jeremy Sweet, Bruno Mezzetti

Presented at: Joint Congress of the Entomological Society of America and Canada, Vancouver, November 2018

Vera Ventura reported on WG4 on activities carried out in GP3

Vera Ventura reported the outputs of the main event organized by WG4 during GP3, the meeting with stakeholders and policymakers in October 2018 in Brussels. The meeting offered the possibility to exchange knowledge on RNAi technology, some case studies of successful improvements of plants through RNAi solutions, biosafety and socio-economic impacts. She concluded that all stakeholders attending the meeting showed a high interest in the work done and some concerns mostly related to consumer acceptance of RNAi-based product. The meeting successfully contributed to the activity of the iPlanta Action in line with WG4 deliverable "Reports and communication of results to stakeholders at workshops and in training programme". The meeting also outlined the importance of defining together a strategy with scientists, discuss solutions with stakeholders, and engage with consumers to reduce the knowledge gaps.

Publications acknowledging iPlanta:

Frisio, D. G., & Ventura, V. (2019). Exploring the patent landscape of RNAi-based innovation for plant breeding. *Recent patents on biotechnology*. DOI: 10.2174/1872208313666190204121109

Hilde-Gunn Sorteberg reported on WG5 on activities carried out in GP3

Hilde-Gunn Sorteberg reported on the CG and joint meeting with WG3 in Naples, setting the target audience of videos and started addressing key messages from the action, and the good school at Rothamsted including communication activities. The videos were presented, and the first one supporting the importance of COST was cleared for publication. As the other WGs also pointed out, we reported on the importance of the follow up work on the key messages and dissemination activities in GP4 to finalize the activities initiated during GP3. The work on the book chapters, position paper and other planned papers will be covered and updated to secure progress and these deliverables. The communication and dissemination work will be finalized by the planned joint WG2 meeting and central people to communication gathered in Norway in June 2019 and WG4 stakeholder follow up with the new commission in place spring 2020.

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STSM/ITC

Jorge Paiva STSM/ITC Leaders: report on activities carried out in GP3

Jorge Paiva reported on STSM /ITC grants of the GP3. A total of 10 proposals STSM were approved: 7 from women and 3 from men. Italy was the main origin country (4 grants), followed by Slovenia (3 grants), and with one grant each Czech Republic, Greece and Poland, i.e. half of the proposals approved came from Inclusiveness Target Countries (ITC). The main destination countries were France and UK, each one with 3 grants, while Germany, Belgium, Spain and Greece received each one grant. From the 10 grants proposals approved, six of them were proposed by EIC.

Relatively to ITC Conference, it was also confirmed by the MC that Jorge Paiva will be the coordinator of this tool. During the GP3, one ITC Conference grant was approved.

The coordinator of STSM also remind that all the reports of ongoing STSM should be submitted until the 1st April, in order to proceed the respective evaluations and approval of the reports, as the payment of the grants should be done until the end of April. He also reminds that the rules and proceeding of STSM available at iPlanta website should be followed.

In order to facilitate the payments of the STSM and ITC Conference grants during the 4 GP, it was established that the end of the STSM grants period and ITC should not exceed February 2010. This will give enough time to submit the STSM and ITC report, evaluated them and made the payments of the grants.

International dissemination

During GP3 were also organized two International dissemination events, following described:

a) Salvatore Arpaia attended ESA, ESC and ESBC Joint Annual Meeting (Entomology 2018). Vancouver Canada, 10-15/11/2018. He presented a poster entitled: RNAi research and development in relation to crop protection in Europe. He contributed to disseminate the iPlanta COST action activities the international Entomology scientific community.

b) Bruno Mezzetti attended The9th North American Strawberry Symposium (NASS), Feb. 3-6, 2019 in Orlando, Florida (USA), An oral presentation was included in the program with the following title: Introduction to the iPLANTA COST Action and RNAi research and development in relation to crop protection. The oral presentation contributed to disseminate the EU iPlanta network to the international conference of growers and stakeholders of the horticulture sector and in particular of the strawberry industry. The impact of RNAi technology for providing alternative solution for protecting strawberry and horticulture plants from pest and diseases, has been discussed.

8) Update from Grant Holder Action GP3 budget status

The Chair reported that the Chair proposed to spend the remaining budget on the following activities:

GP3 iPLANTA - estimated total expenditure			total €
Done Paid	Napoli	WG3 Meeting	12895,12
Done Paid	Bordeaux	WG1 Meeting	9942,69
Done Paid	Rothamsted	WG2 Meeting	10714,80
Done Paid	Rothamsted LOS	WG2 Meeting	5402,00
Done Paid	Zadar	Wg3 Meeting	2775,86
Done Paid	Bruxelles	Wg4 Meeting	20087,91
Done Paid	Canada	Int.Meeting	2208,75

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Done Paid	Training	School	15770,00
Done Paid	STSMs		6370,00
Done Paid	Video		2276,92
Done Paid	Congress grants ECI		1500,00
Done Paid	Orlando	Int.Meeting	2425,14
Total paid			92369,19
Still running STSMs - to be paid			10000,00
Lisbon Conference - estimated cost			53960,00
LOS Lisbon Conference			2900,00
WG3 meeting in Tarragona estimated costs			5320,00
Estimated total cost for activities			164549,19
Expected	FSAC 15%		24682,38
Estimated Total cost GP3			189231,57
Total budget available for GP3			167911,50
Estimated Total Overspending			21320,07

Cost for Lisbon and Tarragona meetings are estimated because the activities are still to be completed the same as the last STSMs still running. The total paid and estimated costs exceed the total budget allocated for GP3 of about 20000€. Probably this difference can be reduced and covered by a compensation from COST additional costs.

9) Scientific planning and strategy (MoU objectives, GP Goals, WG tasks and deliverables)

The Chair opened the discussion on the plan of activities for the next GP4, from May 2018 to April 2019, by suggesting planning as main events a meeting for each WG to be combined with a school (1 or 2 maximum), this in order to increase the efficiency of WG activities and reduce administrative work. After a discussion the MC approved the following meetings plan proposed by the WG leaders:

GP4 iPLANTA – meetings plan

Activity	Country
WG1 Meeting	Gent/school 1 (BE)
WG2 Meeting	Neustadt/school 2 (GE)
WG3 Meeting	Rome (IT)
WG4 Meeting	Barcelona (SP)
WG5 Meeting	Tromso (NO)
Int.Meeting 1 ESA	Sant Luis (USA)
Int.Meeting 2	None
Training Schools 1 and 2	Neustadt/Gent
MC Meeting/4th Conf	Antalya (TR)

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The WGLs will provide the description of the scientific contents of the different events, with the mandate to achieve objective and deliverables expected in the MoU. The budget allocated for STSM/ITC will be managed by adopting the rules and deadlines of the previous GPs.

All activities will be carried out in respect of COST policy for gender balance and ECI participation and the rules defined for the action since the first MC meeting.

The Action Chair opened a short discussion on GP5 preplanning. As general indication come out the possibility to have a communication meeting in June 2020 and final meeting in September 2020 (possible location Zagreb, HR).

10) Dissemination planning (Scientific publications and outreach activities)

- **Joint reviews (RNAi spray – Frontiers), position papers: progress/state of the work**

Pedro Fevereiro and Susana Araújo presented the offer from Frontiers on line journal to publish open access a group of papers at a discount price, up to 50% with the submission of 6 papers. From the discussion emerged a general interest to this opportunity and all agreed to try to collect 6 papers (research and review papers) and submit for the publication in Frontiers. Pedro Fevereiro and Susana Araújo took the responsibility to identify topics and authors for the preparation of the papers to be submitted to Frontiers.

- **Book – Cabi – progress/state of the work**

Jeremy Sweet reported on the work done for the preparation of a book on RNAi technology to be published with CABI. Different chapters are already in preparation other still need to be defined, several authors still have to be contacted. WGLs will do this work. From the discussion emerged the opportunity to have the book published open access. To this end, it was decided to check the cost of publishing open access from CABI and the possibility of having an additional contribution from COST to support it.

- **Video/PODCAST**

Matina Tsalavouta reported on the 2 videos prepared with iPlanta budget, during the WG2 meeting and School held in Rothamsted in September 2018, to disseminate the iPlanta Action. The two videos were presented the day before at the audience of the conference. The first video, describing the organization of the action, was considered appropriate and all agreed to have it published on iPlanta webpage. The second video, describing the RNAi technology, resulted not appropriate in the present form. All agreed to reconsider it for publication on iPlanta webpage only after revision of the contents identifies as not appropriate.

11) Action Budget Planning

Following the decision taken in point 9, the Chair of the Action opened a discussion on the GP4 Budget distribution for the different meetings and activities of iPlanta GP4. After a short discussion all MC delegates agreed on the following GP4 budget distribution:

GP4 iPlanta – budget repartition				
Activity	Country	Dates	Number of experts	Estimated total € x 760€/expert

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WG1 Meeting	Gent/school 1		10	7600.00
WG2 Meeting	Germany/school 2		10	7600.00
WG3 Meeting	Rome		18	13680.00
WG4 Meeting	Barcelona		10	7600.00
WG5 Meeting	Tromso		18	13680.00
Int.Meeting 1	USA at Esa		1	2400.00
Int.Meeting 2	None		-	-
Training Schools x 2	Germany/Gent		18	13680.00
STSMs				20000.00
ITC/ECI			4	4500.00
Dissemination	International papers			5173.04
MC Meeting/4th Conf	Antalya (TR)		50	38000.00
Total expected costs				133913.04
FSAC 15%				20086.96
Total cost GP4				154000.00
Allocated GP4 budget				154000.00

12) AOB

None

13) Location and date of next meeting

The next MC meeting and 4th Conference was decided to be held in Antalya Turkey, next February, 2020, local organizer Salih Kafkas.

14) Summary of MC decisions

The following decisions were approved:

- Minute of the 3rd MC meeting.
- A strategy for inclusiveness and excellence.
- Criteria for WG meetings planning and expert selection.
- Draft plan of the WG meetings for GP4.
- The budget and program for STSMs.
- Increase inclusiveness near Neighbouring Countries and International Partner Countries
- Next MC meeting and 4th Conference

15. Closing

At 12.30 the Chair of the Action declared closed the second MC meeting of iPLANTA Action.

Annex 1 – Agenda of MC meeting.

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COST Action CA15223
Action Title: Modifying plants to produce interfering RNA
Agenda
4th Management Committee Meeting
Lisbon, Portugal
March 1th, 2019

1. Welcome to participants
2. Verification of the presence of two-thirds of the Participating COST Countries or, if applicable, a quorum
3. Adoption of agenda
4. Approval of minutes and matters arising of last meeting (Poznan MC Meeting)
5. Update from the Action Chair
 - d) participating COST countries,
Total 32 (intention Lithuania)
 - e) participating NNC/IPC institutions and Specific Organizations.
NNC Approved: Armenia, Jordan
ICP Approved: Brasil – request: Uruguay
6. Update from the COST Association, if a representative is present
7. Follow-up of MoU objectives: progress report of working groups
 - **WG1 Leaders: report on activities carried out in GP3**
 - **WG2 Leaders: report on activities carried out in GP3**
 - **WG3 Leaders: report on activities carried out in GP3**
 - **WG4 Leaders: report on activities carried out in GP3**
 - **WG5 Leaders: report on activities carried out in GP3**
 - **STSM/ITC Leaders: report on activities carried out in GP3**
8. Update from Grant Holder Action GP3 budget status
GH Chair: GP3 Budget
9. Scientific planning and strategy (MoU objectives, GP Goals, WG tasks and deliverables)
 - **WG1 Leaders: GP4 plan of activities**
 - **WG2 Leaders: GP4 plan of activities**
 - **WG3 Leaders: GP4 plan of activities**
 - **WG4 Leaders: GP4 plan of activities**
 - **WG5 Leaders: GP4 plan of activities**
 - **STSM/ITC Leaders: GP4 plan of activities**
 - **Other meetings: CG meeting, Field trials meetings**
 - **Preplanning of GP5**
10. Dissemination planning (Scientific publications and outreach activities)
 - **Joint reviews (RNAi spray – Frontiers), position papers: progress/state of the work**
 - **Book – Cabi – progress/state of the work**
 - **Video/PODCAST**

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11.Action Budget Planning

GH Chair: GP4 Budget plan (GP5)

12.AOB

13.Location and date of next meeting **(FEBRUARY 2020 MC – September 2020 final meeting)**

14.Summary of MC decisions

15.Closing

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