

## **Dr. Rachid BOUHARROUD,**

Entomologist

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## **Education**

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**2001 – 2007: PhD, Resistance of whitefly *Bemisia tabaci* to commonly used insecticide on tomato crop in Morocco** (*Institut Agronomique et Veterinaire HASSAN II, Complexe Horticole d'Agadir and University IBN ZOHR-Agadir*), Pr. Hanafi Abdelhaq and Pr. Serghini Mohamed Amine

**1998 – 2000: Master Plant Biotechnologies**, Biocontrol of bacterial canker of tomato *Clavibacter michiganensis* subsp *michiganensis* using *Pseudomonas fluorescens* (*University IBN ZOHR-Agadir*)

## **Experience**

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**2010 – nowadays: Researcher and Head of laboratories at INRA-Agadir.**

**Oct. 2007 – Jan. 2010: Quality manager**, Cooperative COPAG, Citrus.

**Dec. 2007 – Jan. 2010: Internal auditor**, Cooperative COPAG, Citrus.

**Dec. 2006 – Sept. 2007: Technical and Quality manager**, Cooperative AZRO, Fruits and Vegetables.

**Mar. 2006 – Jun. 2006:** Engineering Consultant, (Design office)

## **Ongoing research projects**

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- ✓ Development of biopesticides (Bacteria and plant extracts) to control tomato leafminer *Tuta absoluta*, Mediterranean fruit fly *Ceratitis Capitata* and two spotted mite *Tetranychus urticae*
- ✓ Rearing of wild (argan trees forest) Mediterranean fruit fly *Ceratitis Capitata*;
- ✓ Biocontrol of oriental red mite *Eutetranychus orientalis* using two predatory phytoseids : *Neoseiulus californicus* and *Amblyseius swirskii* ;
- ✓ Evaluation and identification of local vegetable crop varieties (landraces) for increased productivity in Morocco;
- ✓ Integrated pest management of protected tomato crops (soiless and soil) under multispan greenhouses;
- ✓ Side effects of predatory bug *Nesidiocoris tenuis* (Lab and semi-field tests)
- ✓ Biocontrol in Zucchini and pepper crops under greenhouses ;
- ✓ Integrated pest management of the Opuntia cochineal scale *Dactylopius opuntiae*;
- ✓ Biodiversity of entomofauna in argan forest ecosystem;
- ✓ Phytosanitary alert of citrus Greening diseases (HLB) ;

## **Teaching accomplishments**

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**2013: Invited Professor** Polydisciplinary University of Taroudant (Ibn Zohr Univ.) : "Technical management of citrus orchard and Packaging".

**Oct. 2003 – Jun. 2006: Temporary Professor**, Universities and private institutes (Agadir – Morocco) at a rate of 08 hours/week (Microbiology, Parasitology, Computer science,)

## Students co-advised :

Title	Year	Nb student	Degree	University/ Institute
Biodiversity of entomofauna in argan forest ecosystem	2016 - 2019	1	PhD	ENSA-Agadir
Bacterial biopesticides to control tomato key pests	2015-2018	1	PhD	ENSA-Agadir and Univ. Ibn Zohr Agadir
Effect of flurescent <i>Pseudomonas</i> on gray mold <i>Botrytis cinerea</i>	2016	1	Master	Univ. Ch. Doukkali - El Jadida
Effect of flurescent <i>Pseudomonas</i> on the adults of two spotted mite <i>Tetranychus urticae</i>	2016	1	Master	Univ. Rennes 1, FRANCE
PGRP ability of antagonistic flurescent <i>Pseudomonas</i> on tomato seedlings	2016	1	Master	FST - Settat
Side effects of Pymetrozine and Chlorantraniliprole on <i>Nesidiocoris tenuis</i> at semi-field scale	2016	1	Ingenier	IAV Hassan II, CHA
Evaluation of methods used to control Mediterranean fruit fly <i>Ceratitis Capitata</i> in citrus groves of Moulouya region	2016	1	Granting tenure	INRA
Small scale rearing of Mediterranean fruit fly <i>Ceratitis capitata</i>	2015	1	PhD	Univ. Ibn Zohr Agadir
Side effects of insecticides on predatory bug <i>Nesidiocoris tenuis</i>	2015	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Repulsif effects of <i>Thymus vulgaris</i> and <i>Ricinus communus</i> on the adults longevity of two spotted mite <i>Tetranychus urticae</i>	2015	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Alternative methods to control purple nutsedge <i>Cyperus rotundus</i>	2015	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant and INRA-Marrakech
Rearing of wild (argan trees) Mediterranean fruit fly <i>Ceratitis Capitata</i> at small scale.	2015	1	Additional training	INRA
Repulsif effects of <i>Thymus vulgaris</i> and <i>Ricinus communus</i> on the adults of two spotted mite <i>Tetranychus urticae</i>	2015	1	Ingenier	IAV Hassan II, CHA
Effect of flurescent <i>Pseudomonas</i> on adults of Mediterranean fruit fly <i>Ceratitis Capitata</i>	2015	2	Master	FST, Beni Mellal
Extraction of secondary metabolites from aromatic and medicinal plants	2014	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Effect de <i>Thymus vulgaris</i> extracts on the adults longevity of two spotted mite <i>Tetranychus urticae</i> Koch (Acari, Tetranychidae)	2014	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Side effects of insecticides on predatory bug <i>Nesidiocoris tenuis</i>	2014	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Side effects of fungicides on predatory bug <i>Nesidiocoris tenuis</i>	2014	1	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Screening of pests and diseases of cactus pear orchard	2013	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Effects of <i>Thymus vulgaris</i> , <i>Ricinus communis</i> and <i>Argania spinosa</i> extracts on tomato leafminer <i>Tuta absoluta</i> under greenhouse conditions	2013	2	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Side effects of insecticides on the predator mirid <i>Nesidiocoris tenuis</i> under laboratory conditions	2013	1	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Extraction techniques of secondary metabolites from medicinal and aromatic plants by organic solvent	2013	1	Professional Bachelor of Sciences	Multidisciplinary fac. -Taroudant
Effects of <i>Thymus vulgaris</i> , <i>Ricinus communis</i> and <i>Argania spinosa</i> extracts on tomato leafminer <i>Tuta absoluta</i> under greenhouse conditions : Preventive sprays	2013	1	Ingenier	IAV Hassan II, CHA

Side effects of 2 antifungal active ingredients (Mancozeb and copper oxychloride) on the predator mirid <i>Nesidiocoris tenuis</i> under greenhouse conditions	2013	1	Ingineer	IAV Hassan II, CHA
Effects of <i>Thymus vulgaris</i> , <i>Ricinus communis</i> and <i>Argania spinosa</i> extracts on tomato leafminer <i>Tuta absoluta</i> under greenhouse conditions : Curative sprays	2013	1	Ingineer	IAV Hassan II, CHA
Toxic effects of <i>Thymus vulgaris</i> L. and <i>Ricinus communis</i> L. on the adults of two spotted mite <i>Tetranychus urticae</i>	2013	1	Ingineer	IAV Hassan II, CHA
Integrated pest management of two key pests ( <i>T. absoluta</i> and <i>B. tabaci</i> ) of tomato under multispan greenhouse : contribution to modeling	2012	1	Master	Univ. Ibn Zohr Agadir
Side effects of 2 antifungal active ingredients (Mancozeb and copper oxychloride) on the predator mirid <i>Nesidiocoris tenuis</i> under laboratory conditions	2012	1	Ingineer	IAV Hassan II, CHA
Effect of Ethanolic extracts of some endemic plants of Morocco on tomato leafminer <i>Tuta absoluta</i>	2011	1	Ingineer	IAV Hassan II, CHA
Effect of Methanolic extracts of some endemic plants of Morocco on tomato leafminer <i>Tuta absoluta</i>	2011	1	Master	Univ. Ben-Msik-Casablanca

## Publications (Peer reviewed)

1. Smaili M. C., A. Bakri, F. Gaboune, **R. Bouharroud** and A. Blenzar. **2016** Comparison of the effect of spinosad, kaolin and protein bait spray on *Ceratitis capitata* (Diptera : Tephritidae) in citrus orchards in the Gharb (Morocco). *International Journal of Research in Agricultural Sciences*, Vol. 3 (4): 197 – 205.
2. **Bouharroud R.**, Amarraque A. and Qessaoui R. **2016** First report of the *Opuntia* cochineal scale *Dactylopius opuntiae* (Hemiptera: Dactylopiidae) in Morocco. *EPPO Bulletin Volume 46, Issue 2* : 308–310
3. Boujaghagh M., **Bouharroud R.** and M. Mouhib **2015**. Germination of cactus (*Opuntia ficus-indica*) seeds irradiated with various doses of radiations mutagenic treatment. *Acta Horticulturae* 1067:75-78.
4. Boujaghagh M. and **R. Bouharroud** **2015**. Influence of the timing of flowers and young cladodes removal on reflowering and harvest periods, yields and fruits quality of prickly pear (*Opuntia ficus-indica*). *Acta Horticulturae* 1067:79-82.
5. Wifaya A., **R. Bouharroud**, Elame F., Azim K., L. Bouirden, L. Gourdo, K. Lekouch, M. EL Jazouli and A. Taoufik **2014**. Modeling of integrated production tomato under multispan greenhouse in Souss Massa region. *International Journal of Enhanced Research in Science Technology and Engineering*, Vol. 3 (12): 125-132.
6. Mimouni A., R. Mrabet, F. Msanda and **R. Bouharroud** **2014**. Effect of mixed cropping rotations of vetch, barley and fodder pea-barley with corn on the chemical, physical and biological soil characteristics in the Southwest of Morocco. *International Journal of Enhanced Research in Science Technology and Engineering*, Vol. 3 (12): 133-140.
7. Nilahyane A., **R. Bouharroud**, A. Hormatallah, N. Ait Taadaouit **2012**. Larvicidal effect of plant extracts on *Tuta absoluta* (Lepidoptera, Gelechiidae). *IOBC-WPRS Bulletin* Vol. 80 : 305-310.
8. Ait Taadaouit N., M. Hsaine, A. Rochdi, A. Nilahyane and **R. Bouharroud** **2012**. Effet des extraits végétaux méthanoliques de certaines plantes marocaines sur *Tuta absoluta* (Lepidoptera, Gelechiidae). *EPPO Bulletin, Volume 42, Issue 2* : 275–280.
9. **Bouharroud, R.**, Hanafi, A. and Serghini, M.A. **2007**. Pyrethroids and Endosulfan resistance of *Bemisia tabaci* in the tomato greenhouses of the Souss valley of Morocco. *Acta Horticulturae* 747:409-413
10. Hanafi, A., **Bouharroud, R.**, Amouat, S. and Miftah, S. **2007**. Efficiency of insect nets in excluding whiteflies and their impact on some natural biological control agents. *Acta Horticulturae* 747:383-387
11. **Bouharroud R.**, Hanafi A., Brown J. K., and Serghini M. A. **2006**. Resistance and cross-resistance of *Bemisia tabaci* to commonly used insecticides in the tomato greenhouses of the Souss valley of Morocco. *European Journal of Scientific Research* Vol. 14 (4): 587 – 594.
12. **Bouharroud R.**, Hanafi A. Murphy B. and Serghini M. A. **2003**. New developments in *Bemisia tabaci* resistance to insecticides in greenhouse tomato in Morocco. *IOBC/WPRS Bulletin*. Vol. 26(10): 21 – 25.
13. Hanafi A., **Bouharroud R.**, Miftah S. et Amouat S. **2003**. Evaluation of different types of insect screens for the exclusion of whiteflies and natural enemies. *IOBC/WPRS Bulletin*. Vol.26(10): 43 – 47.
14. Hanafi A., **Bouharroud R.**, Miftah S. et Amouat S. **2003**. Performances of two types of insect screens as a physical barrier against *Bemisia tabaci* and their impact on TYLCV incidence in greenhouse tomato in the Souss Valley of Morocco. *IOBC/WPRS Bulletin* Vol. 26(10): 39 – 42.
15. Hanafi A., B. Murphy, I. Alaoui and **Bouharroud R.** **2002**. Physical methods for the control of *Bemisia tabaci* and its impact on TYLCV infection in greenhouse tomato in Morocco. *IOBC/WPRS Bulletin* Vol. 25 (1) pp. 85-88.
16. Hanafi A., **Bouharroud R.**, and B. Murphy. **2002**. Evaluating a new non-toxic pesticide for integrated control of *Bemisia tabaci* in protected agriculture in Morocco. *IOBC/WPRS Bulletin* Vol. 25 (1) pp. 89-92.

## **Publications (Technical newsletters and conference papers)**

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1. Sbaghi M., **Bouharroud R.**, Boujghagh M., El Bouhssini M., Lhaloui S., EL Fakhouri K. and A. Sabraoui. **2017** La lutte biologique au secours de la culture du cactus au Maroc. *Agriculture du Maghreb* N°101: 64 – 65.
2. **Bouharroud R.**, El Bouhssini M., Sbaghi M., Lhaloui S., Boujghagh M., EL Fakhouri K. and A. Sabraoui. **2016** New invasive pest: Integrated pest management strategies of the prickly pear cochineal *Dactylopius opuntiae*. *The 3<sup>rd</sup> International American Moroccan Agricultural Sciences Conference, Ouarzazate, Morocco, December 2016*, pp. 20 – 21. *Communication Orale*
3. Walters A., Mimouni A., **Bouharroud R.** and A. Wifaya. **2016** Utility of local vegetable crop populations to mitigate yield responses to climate change. *The 3<sup>rd</sup> International American Moroccan Agricultural Sciences Conference, Ouarzazate, Morocco, December 2016*, pp. 21 – 22. *Communication Orale*
4. Qessaoui R., **R. Bouharroud**, B. Chebli, S. Hakou, A . Amarraque and El H. Mayad. **2016** Effect of fluorescent *Pseudomonas* on the two spotted spider mite *Tetranychus urticae* (Acari: Tetranychidae). *The 3<sup>rd</sup> International American Moroccan Agricultural Sciences Conference, Ouarzazate, Morocco, December 2016*, pp. 92. *Communication Affichée*
5. Ajerrar A., **Bouharroud R.**, Zaafraoui M., Chebli B., Amarraque A., Qessaoui R. and El H. Mayad. **2016** Biodiversity and abundance of ants (Formicidae) in the Argane (*Argania spinosa*) forest in the South-west of Morocco *The 3<sup>rd</sup> International American Moroccan Agricultural Sciences Conference, Ouarzazate, Morocco, December 2016*, pp. 93. *Communication Affichée*
6. **Bouharroud R.**, Sbaghi M. and Boujghagh M. **2016** Bio-écologie de la cochenille à carmin du cactus et scénario d'une stratégie de lutte. Proceeding 10th of Association Marocaine de Protection des Plantes (AMPP) : Gestion des risques phytosanitaires liés aux organismes nuisibles émergents, November 2016, pp : 33 – 41. *Communication Orale*
7. Qessaoui R., **Bouharroud R.**, Zanzan M., Mayad H. and Chebli B. **2016** Biocontrol of green mold *Penicillium digitatum* on citrus using fluorescent *Pseudomonas*. **5<sup>th</sup> International ECOSUMMIT**, Ecological Sustainability Engineering Change. p.129, 29 August – 01 September, 2016. *Communication Affichée*
8. **Bouharroud R.** **2016** Greening des agrumes et ses vecteurs : Aide à la reconnaissance et l'identification de la maladie. *Agriculture du Maghreb* N°96: 70 – 71.
9. **Bouharroud R.**, Boukhizou A., Amarraque A., Qessaoui R., Smaili M. C. **2016** Lutte biologique contre l'acarien oriental des agrumes. *Agriculture du Maghreb* N°94: 148 – 149.
10. Ajerrar A., **R. Bouharroud**, A. Amarraque, R. Qessaoui et Mayad El H. **2015** Evaluation de la biodiversité de l'entomofaune terrestre associée à l'écosystème de l'arganier. 3ème Congrès International d'arganier, December 2015. *Communication Orale*
11. **Bouharroud R.**, R. Qessaoui et A. Achour **2015** Importance des lichens dans les arganeries Marocaines. 3ème Congrès International d'arganier, December **2015**. *Communication Orale*
12. Hamdouch A., **Bouharroud R.**, Idrissi Hassani L.M. et Chebli B. **2015** Activité insecticide de l'huile essentielle de *Vitex agnus castus* sur les stades adultes de *Ceratitis capitata*. 3ème Congrès International d'arganier, December 2015. *Communication Orale*
13. Achour A., A. El Hamdaoui, **Bouharroud R.**, I. Filali Alaoui, C. Defaa, A. EL Mousadik et F. Msanda **2015** Observations préliminaires de la pollinisation de l'arganier au Maroc. 3ème Congrès International d'arganier, December 2015. *Communication Orale*
14. **Bouharroud R.** et M. Boujghagh **2015** Guide des maladies et ravageurs du cactus (*Opuntia ficus indica*) dans le sud-ouest du Maroc. Proceeding du Symposium de l'Association Marocaine de Protection des Plantes (AMPP) : Plantations fruitières du terroir, inventaire des bio-agresseurs et la protection intégrée, November 2015, pp : 15 – 23. *Communication Orale*
15. Qessaoui R., **Bouharroud R.**, Amarraque A., Mayad El H., Lamharchi El H., Boujghagh M. et Chebli B. **2015** Agent responsable da la pourriture des raquettes du cactus *Opuntia ficus indica* dans la région du Souss. Proceeding du Symposium de l'Association Marocaine de Protection des Plantes (AMPP) : Plantations fruitières du terroir, inventaire des bio-agresseurs et la protection intégrée, November 2015, pp : 25 –30. *Communication Affichée*
16. **Bouharroud R.** **2015**. Control of tomato leafminer as a new invasive species: costs and lessons. *Watch Letter* N° 33, pp: 63 – 67.
17. Qessaoui R., Chebli B., Mayad E. H. and **R. Bouharroud** **2014**. Biological control of *Botrytis cinerea* using fluorescent *Pseudomonas*. *The 2<sup>nd</sup> International American Moroccan Agricultural Sciences Conference, Marrakech, Morocco, October 2014*, pp. 51.
18. **Bouharroud R.** and M. Setamou **2014**. Residual effect of three Neonicotinoids commonly used to control Asian Citrus psyllid *Diaphorina citri*. *The 2<sup>nd</sup> International American Moroccan Agricultural Sciences Conference, Marrakech, Morocco, October 2014*, Pp. 36.
19. Walters A., Mimouni A., **Bouharroud R.**, Wifaya A. and Boujghagh M. **2014**. Vegetable crop landraces in the Souss region of Morocco. *The 2<sup>nd</sup> International American Moroccan Agricultural Sciences Conference, Marrakech, Morocco, October 2014*, Pp. 15.
20. **Bouharroud R.** **2014**. Approche proactive pour lutter contre les acariens clés des agrumes au Maroc. *Agriculture du Maghreb* N°77: 82 – 85.
21. **Bouharroud R.** and M. Setamou **2013**. Residual effects of three neonicotinoids commonly used to control Asian citrus psyllid, *Diaphorina citri*. *Entomological Society of America Annual Meeting 2013; 11/2013*
22. Hallam J., Ait Lhaj A., Mimouni A., Bouzoubaâ Z., Sedki M., **Bouharroud R.**, Elame F., Boujghagh M., Karra Y. et Azim K. **2013**. Combattre les changements climatiques en région montagneuse. Reseau Karianet & Ileia, Mai 2013, p : 1-4.
23. Bouzoubaa Z., Ait Lhaj A., Wifaya A., Sedki M., Mimouni A., Azim K., Boujghagh M., Elame F., **Bouharroud R.**, and Oumzil H. **2012** Le rôle du renforcement des capacités et de l'organisation professionnelle dans la réussite de l'adaptation aux changements climatiques. Book of abstracts p.18. December 20, 2012
24. Mimouni A., Wifaya A., Karra Y., Ait Lhaj A., Azim K., **Bouharroud R.** **2012** Combiner l'amélioration et la diversification de la production agricole pour plus de capacité d'adaptation aux changements climatiques. Book of abstracts p.12. December 20, 2012

- 25.**Ait Lhaj A., Wifaya A., Azim K., Bouzoubaa Z., Mimouni A., Sedki M., Boujaghagh M., Elame F., **Bouharroud R.**, Rhajaoui M., Oumzil H., El Mouden A., Hallam J. and Balaghi R. **2012** Small dams for climate change adaptation in Morocco : Challenges in implementation and options for optimization. Book of abstracts p.7. December 20, 2012
- 26.**Ait Taadaouit N., Nilahyane A., Hsaine M., Rochdi A., Hormatallah A. et **Bouharroud R.** **2011**. L'Effet des extraits végétaux sur la mineuse de la tomate *Tuta absoluta* (Lepidoptera, Gelechiidae). Actes du 1<sup>er</sup> Congrès International de l'Arganier, pp : 411 - 417
- 27.****Bouharroud R.** **2011**. Tomate : Principales maladies fongiques. Agriculture du Maghreb. N°54, p: 92 – 96.
- 28.****Bouharroud R.**, S. Lhaloui, F. Gaboun and A. Ait Lhaj **2011**. The costs of the control of *Tuta absoluta* in the Souss valley of Morocco. *International Symposium on management of Tuta absoluta Agadir, Morocco, November 16-18, 2011*
- 29.****Bouharroud R.**, Hanafi A., Brown J. K., and Serghini M. A. **2006**. Résistance de *Bemisia tabaci* aux insecticides communément utilisés dans les cultures de tomates sous serre de la région de Souss-Massa. *Actes du 2<sup>ème</sup> Congrès International de Biochimie May 2006*
- 30.**Brown J. K., Hanafi A., **Bouharroud R.** and Murphy B. **2004**. Molecular identification of Begomoviruses and haplotypes of *Bemisia tabaci* (Genn.) in tomato crops in Morocco. *Proceeding of the 2nd European Whitefly Symposium, Cavitat, Croatia*.
- 31.****Bouharroud R.**, Hanafi A., Haouass F., Murphy B. et Serghini M. A. **2004**. Premier rapport sur la résistance de la mouche blanche *Bemisia tabaci* aux insecticides au Maroc. *Proceeding de l'AMPP*: 125 – 135.
- 32.**Hanafi A., Amouat S., Miftah S., **Bouharroud R.** et Murphy B. **2004**. Utilisation des filets anti-insectes en culture de tomate sous serre «Impact sur le couple *Bemisia*/TYLCV et sur la faune auxiliaire». *Proceeding de l'AMPP*. Pp: 319 – 328.
- 33.****Bouharroud R.**, Hanafi A., Murphy B., Haouass F. and Serghini M. A. **2003**. Evidence of *Bemisia tabaci* resistance to some commonly used insecticides in greenhouse tomatoes in Morocco. *Abstract Proceeding of the 3rd International Bemisia Workshop Barcelona 17 - 20 March, 2003*
- 34.**Hanafi A., **Bouharroud R.**, Murphy B. and Haouas F. **2003**. Evaluating the mode of action for a novel, non-toxic whitefly pesticide. Abstract Proceeding of the 3rd International *Bemisia* Workshop Barcelona 17-20 March, 2003
- 35.**Hanafi A., Murphy B.C., **Bouharroud R.**, Amouat S. and Alaoui D. **2003**. Efficiency of exclusion nets against *Bemisia tabaci* (Homoptera: Aleyrodidae) and TYLCV incidence in greenhouse tomato. Abstract Proceeding of the 3rd International *Bemisia* Workshop Barcelona 17-20 March, 2003
- 36.**Hanafi A., **Bouharroud R.** and Murphy B. **2003**. AGRI-50: Effect on *Bemisia tabaci* pupae and adult emergence. European Whitefly Studies Network Newsletter Issue N°15
- 37.**Hanafi A., **Bouharroud R.** and Murphy, B. **2003**. *Bemisia tabaci* insecticide resistance in Morocco. *European Whitefly Studies Network Newsletter Issue N°15*.
- 38.**Hanafi A., **Bouharroud R.** and Amouat S. **2002**. Evaluating a new non-toxic pesticide for integrated control of *Bemisia tabaci* in Protected\_Agriculture in Morocco. European Whitefly Studies Network. pp.11-12. EWSN Abstract Compendium 245 p.
- 39.**Hanafi A., **Bouharroud R.** and Haouas F. **2002**. Evaluating *Bemisia tabaci* resistance to the most common Neocotinoids used in Protected Cultivation in Morocco. European Whitefly Studies Network. pp.13-15. EWSN Abstract Compendium 245 p.
- 40.**Hanafi A., **Bouharroud R.** and Murphy, B. **2001**. Evaluation of a non-toxic pesticide against *Bemisia tabaci* in the Souss Valley of Morocco. *EWSN Newsletter Issue N° 11*.

## Extension and technical advisor

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- Gestion des principaux ravageurs des cultures dans la région Souss-Massa : pour une agriculture saine et durable, Thematic Day organized by IRD France and University Ibn Zohr Agadir Production végétale et intensification écologique, l'apport de la résilience biologique des sols, Agadir, **December 09, 2016**
- Management of pests and diseases of cactus : Opuntia cochineal scale as example, Sidi Ifni **August 13, 2016**
- Photosanitary protection in almond tree orchards, Teyyert, **August 2<sup>nd</sup>, 2016**
- Photosanitary protection in olive tree orchards, Teyyert, **August 1<sup>st</sup>, 2016**
- Photosanitary protection in aromatic and medicinal crops, Aguerd n'Amar, **July 28, 2016**
- Agriculture and climate change; prospects for the development of farming households: Olive tree as example, Tinzert, **July 23, 2016**
- Photosanitary protection in aromatic and medicinal crops, Targa N'Touchka, March **29, 2016**
- Prevention of diseases and pests in olive tree orchards, Talmest, **April 23, 2015**
- Cultural practices to prevent pests and diseases in cactus crop field, **August 15, 2015**
- Cropping to prevent erosion in mountain area, Ida Ougnidif, **July 25, 2015**
- Biocontrol of pests and diseases in Morocco, Closing seminar of RURALPEST project, Tenerife (Canary Islands) **June 10, 2015**
- Technical advisor for small farmers (Corn, vegetables – Fondation PHOSBOCRAA, OCP), Laayoune, **2015 – 2018**.
- Management of pests and diseases of almond trees in mountain area, Tafraout, **March 19, 2015**
- Technical advisor of organic citrus orchard (40 Ha), Marrakech, **2013-2015**
- How to identify pests and diseases in vegetable crops, Tamaït, **January 28, 2015**
- “IPM : for healthy and safe food”, SIFEL (Salon International des Fruits et Légumes, Agadir, **November 14, 2014**
- Technical advisor of potato, zucchini and French bean crops (7 Ha), Lagfifat **2013-2015**
- Importance of pruning to ensure good plant protection in olive orchard, Inzerki, **April 9, 2014** and **March 26, 2015**

- Technical advisor of Corn, French bean and Gourd (12 Ha) **2013 – 2015**
- Importance of IPM in vegetables and orchards, Tizi N'Test, **October 17, 2010**
- Importance of IPM in vegetables crops, Ait Baha **2010-2011**
- Training for researchers, engineers and farmers : “Symptomatology and identification of citrus Greening disease and its vectors” **Agadir 2012** and **Kenitra 2013**
- Technical sheets in arabic : Olive tree, Potato and Citrus, **2006**

## **Organization Meeting/symposium**

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- Organizing committee of National Seminar "**Climate Change Adaptation: from research to practice**" Agadir, December, **2012**
- Convenor of National Seminar "**Integrated Pest Management in Citrus Orchards**" (*International speaker was invited*), Agadir, July, **2012**
- Assistant Organizer of the International ISHS symposium "**Advances in soil and soilless cultivation under protected environment**" 19-24 February **2006**
- Assistant Organizer of the VI<sup>th</sup> Triennial congress - African Potato Association - APA- "**Research development innovation for income generation and food security**". 05-10 April **2004**
- Assistant Organizer of the IOBC workshop "**IPM in protected cultivation: Mediterranean climate**" November 30 to December 05, **2003**
- Assistant Organizer of "**Workshop of Integrated Production and Protection in Greenhouse Crops**" organised by FAO February 02 to 07, **2003**

## **International Fellowship and Media distinction**

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- ✓ Online Interview Radio –MEDINAFM: Opuntia cochineal scale *Dactylopius opuntiae*, **15 minutes**, November **2016**
- ✓ Report on National TV8 “Special Envoy – Cactus”, **September 2016**
- ✓ Online Interview Radio –MEDINAFM: Opuntia cochineal scale *Dactylopius opuntiae* , **25 minutes**, August **2016**
- ✓ International course at Centre for Development Innovation, University Wageningen, Netherlands : **Integrated pest management and food safety: The challenge of combining pesticide use and ensuring safe food** – May 29 – June 18, 2016 (*Scholarship MENA*)
- ✓ Interview Regional Radio – Agadir: biocontrol as a solution to protect environement and consumer, **23 minutes**, **April 2016**
- ✓ Interview National Radio-Rabat : Scientific research around the argan and Arganiculture, Dec **2015 (52 minutes)**
- ✓ 4<sup>th</sup> International Course on **Integrated Pest Management "Alternative methods for reduction of pesticide use"** at International Agricultural Research and Training Center (UTAEM) – Izmir, Turkey – **03 to 07 Nov 2014**
- ✓ Live TV report during news (8 :00 pm) on Medi1Sat TV Biocontrol and IPM in the Souss valley of Morocco, October, **2014**
- ✓ TV report ” *Massarat aailmiya*” on ATHAQAFIA TV4, April, **2014**
- ✓ **BORLAUG FELLOWSHIP** at Texas Agricultural & Machinery University – Kingsville (Citrus Center – Weslaco) USA, **2011**
- ✓ Participation to **WORLD FOOD PRIZE**, IOWA (USA), October, **2011**
- ✓ **GREENMED**, *The Mediterranean Fresh Produce Magazine*, (N°03/2007 May-June)
- ✓ TV report during news (8 :00 pm) on 2M TV (April, **2001**)

## **Membership and reviewing**

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- ✓ Reviewer of "Journal of Pest Science" - Springer (02 paper)
- ✓ Reviewer of "International Food Research Journal" - University Putra Malaysia (01 paper)
- ✓ Reviewer of "Archives of Phytopathology and Plant Protection" – Taylor & Francis (04 papers)
- ✓ National member: National Action Plan to eradicate Opuntia cochineal scale *Dactylopius opuntiae* in the infested area
- ✓ National and regional member of monitoring commission of installation mass-rearing unit of sterile males (SIT) of Mediterranean fruit fly *C. Capitata* (Minisrty of Agriculture, NPPO-ONSSA, INRA, ALBRA-association of citrus farmers)
- ✓ Associated member of Phytopathology and IPM Unit at Ibn Zohr Univ., Agadir
- ✓ Associated member of Process Engineering for Energy and Environment, Ecole Nationale des Sciences Appliquée (ENSA-Agadir)
- ✓ **2011** and **2012** Member of International Association for the Plant Protection Sciences (IAPPS)

## ***Support training***

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<b>Title</b>	<b>Dates</b>
Improving forage/fodder production on salt-affected farms	Sept 26 – 28, 2016
How to manage emotions and stress?	Dec 21 and 22, 2015
How to manage difficult peoples?	Dec 15 and 16, 2015
Self esteem and confidence building	Dec 2 <sup>nd</sup> and 3, 2015
Strategies of goals and objectives	Nov 26 and 27, 2015
Tender offer (Moroccan Law)	Mar., 2013
How to manage a meeting?	Mar., 2013
Personal development : Time management	Feb., 2012
Personal development : Creativity	Jan., 2012
Microbiologic and Chemical analysis	Oct., 2009
Certification in agriculture	Oct., 2009
Certification Tesco Nature's Choice	Jul., 2009
Internal auditing techniques	Jan., 2009
Certification "British Retail Consortium"	Jul., 2009
Agricultural Machinery and equipment (pesticide application)	Jan., 2009
How to develop job descriptions?	Dec., 2007
Molecular detection methods of grapevine virus	Dec., 2003
Marked-assisted selection for breeding tomatoes	Dec., 2003
Trainer of the FAO Hortivar database on performance of horticulture cultivars	Feb., 2003

## **Others**

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- Languages: Tashelhite (*Native language*), Arabic, French, English, Spanish (*Initiation*)
- Statistic software: POLO-PC, MINITAB, SPSS and SAS
- Born in Agadir (Morocco) in June 24, 1973
- Married, 03 Childs
- Interested business news related to agriculture