Merit Analysis for top 45 Global Minor Use Priorities Summer 2020

Use 1 form per crop/pest priority

(To be conducted by a committee of global proponents for the priority)

Temperate					
Hops – Downy Mildew					
Christine Gagnon, PMC-Canada, Christine.gagnon2@canada.ca					
Criteria*	**51 Points**				
1.Is the crop-pest combination a situation with no available products? ***2 points***					**0**
	Solution 1	Solution 2	Solution 3	Solution 4	
2. Are there potential solutions?	Fluoxapiprolin **(1)**	**Orondis / Zorvec** – Oxathiapiprolin **(1)**	**Theia** – *Bacillus subtilis* strain AFS032321 **(1)**	**Stargus**- *Bacillus nakamurai* strain F727 (previously *B. amyloliquefaciens* strain F727 **(1)**	
3. Company name	Bayer CropScience	Syngenta (NA) / Corteva/Syngenta (Europe)	AgBiome Innovations	Marrone Bio Innovations	
4. Company contact name and e-mail	Melissa Hewitt melissa.hewitt@bayer.com George Musson george.musson@bayer.com Jessica Fernandez jessica.fernandez@bayer.com	Janisse Routledge janisse.routledge@corteva.com Agnes Lesniak agnieszka.lesniak@syngenta.com	Scott Walker swalker@agbiome.com Jim Spadafora jspadafora@agbiome.com	Andre Trepanier atrepanier@marronebio.com	
5. Level of registrant support globally – list of countries registrant is willing to supply GLP test substance, standards and pursue a label (A)	France, Canada, United States, Sweden, Spain, Estonia, Slovania, Austria, Poland, Norway, Belgium, Slovakia, United Kingdom, Germany, Czech Rep.?	Sweden, Estonia, Norway, Belgium, Slovakia, Poland, UK Registrant is planning to register Zorvec Vinabria in Austria, Germany, Slovenia, France, Czech Rep. (Orondis Ultra registered in US and Canada)	US, Canada, Sweden, Spain, Estonia, Slovenia, Austria, Poland, Norway, Belgium, UK, Germany, Czech Rep.	Canada, UK, Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden (Registered in US)	
6. List of countries having field and analytical ability and willing to conduct trials (B)	Canada, US, Czech Republic (Zatec, Saaz), Slovenia (Zalec), Germany (Hallertau, Huell Hop Research Center)	Czech Republic (Zatec, Saaz), Slovenia (Zalec), Germany (Hallertau, Huell Hop Research Center)	US, Canada, Czech Republic (Zatec, Saaz), Slovenia (Zalec), Germany (Hallertau, Huell Hop Research Center)	Canada, Czech Republic (Zatec, Saaz), Slovenia (Zalec), Germany (Hallertau, Huell Hop Research Center)	
7. Insert 1 point for each match between countries that registrant supports, and countries willing (A + B)	US, Canada Slovenia Germany **(4)**	Czech Rep., Slovenia, Germany **(3)**	US, Canada, Slovenia, Germany, Czech Rep **(5)**	Canada, Czech Republic, Slovenia, Germany **(4)**	
8. Is efficacy already established against the target pest or can it be bridged via rationale from	New AI. Bayer conducted 17 trials in Czech Rep. and Germany. Bayer currently determining if there is enough existing efficacy	Joint IR-4/PMC project. Registered in US and CAN (3 performance trials at IR-4, 2 Canadian efficacy trials). EU data	1 company trial in US **(0)**	Stargus is registered for hops in the US and supporting field trial data was generated. **(1)**	

other labeled uses? *Insert 1point*	data for Part 10 in Canada and for IR-4 in US. **(1)**	generated with both solo formulation and Zorvec Vinabria in CEU countries **(1)**			
9. Are there any residue data already available for the crop/pest combination and if so, from where? *Insert 1 point*	New AI, if any data exist, it would be from the company. Bayer to confirm if they have data or not **(1)**	Joint IR-4/PMC project. Registered in US and CAN (6 residues trials: 4 US, 2 CAN); Registrant is planning to register Zorvec Vinabria in Austria, Germany, Slovenia, France, Czech Rep. **(1)**	No, residues are not needed. **(0)**	No, residues are not needed. US EPA granted a tolerance exemption to the active ingredient in Stargus **(0)**	
10. Are project champions identified? (Insert names) *Insert 1point*	David Courcelles PMC **(1)**	**(0)**	**(0)**	David Courcelles PMC **(1)**	

11. Will a uniform GAP (rate, application pattern, PHI, formulation, premix be able to be established across all countries? *Yes = Insert 1 point No = 0*	13.69 fl oz/A, 7 day retreatment, 7 day PHI Registrant supports a foliar use. Bayer to confirm use pattern **(?)**	**CAN: Orondis Ultra** oxathiapiprolin:18 g ai/ha + mandipropamid 150g ai/ha, 3 appl. max (foliar), 7 day retreatment; 7 day PHI; **US: Orondis** (1.67 lb ai/gal) 19.2 fl oz product/A, for new plantings make a soil application at planting; for established plantings make a soil application as soon as new growth emerges in spring; OR as a foliar application at 2.4 fl oz product/A, 7 day RTI, 3 applications, 7 day PHI **US: Orondis Gold** (0.29 lb of oxathiapiprolin and 0.88lb of mefenoxam per gallon); 36 fl oz product/A, for new plantings make a soil application at planting; for established plantings make a soil application as soon as new growth emerges in spring; OR as a foliar application at 12.25 fl oz product/A, 7 day RTI, 45 day PHI **US: Orondis Ultra** (0.25 lb of oxathiapiprolin and 2.08 lb of mandipropamid per gallon); 8 fl oz product/A, foliar; 7 day RTI, 3 apps, 7 day PHI **EU:** solo GAP is 2 x 50 g a.s./ha 10 day spray interval Zorvec Vinabria GAP oxathiapiprolin 50g/ha ? **(0)**	Registrant suggests 0 day PHI. Formulation = 100% DF. Suggested GAP would be 3 lb product/A or 3364g AI/HA applied preventatively on a 7-10 day interval. **(1)**	**US Label**: 1 - 4 quarts per 100 gallons of water (0.25 – 1.0% v/v dilution). When tank mixed with another fungicide, the use rate for STARGUS® BIOFUNGICIDE is 0.5 – 4 quarts in 100 gallons of water; 0 day PHI **(1)**	
12. Does the product replace old technology with reduced risk technology? (*1 point per old product replaced with reduced risk defined as a more favorable environmental or human health risk assessment)*	Mefenoxam (metalaxyl-m) (US/CAN/EU) Azoxystrobin (EU)? Copper (US/CAN/EU) Mancozeb (EU)? Folpet (US/EU) Fosetyl-Al (US/EU) Dithianon (EU) ? **(7)**	Mefenoxam (metalaxyl-m) (US/CAN/EU) Azoxystrobin (EU) Copper (US/CAN/EU) Mancozeb (EU)? Folpet (US) Fosetyl-Al (US/EU) Dithianon (EU) ? **(7)**	Biological – Reduced Risk, but would not necessarily replace other technologies **(0)**	Biological - Low risk fungicide with 4 hour REI and 0 day PHI in the US, but would not necessarily replace other technologies **(0)**	

13. Does the potential solution fit into IPM systems, i.e. low risk to beneficials *Insert 1point*	Very good IPM fit; Good rotational tool with other fungicides. Excellent preventive and curative control at a very low rate **(1)**	Very good IPM fit; Good rotational tool with other fungicides **(1)**	Good IPM fit, low risk to beneficial organisms **(1)**	Good IPM fit, low risk to beneficial organisms **(1)**	
14. Does the project complement current technologies to address pesticide resistance and/or control resistant pest/disease/weed or provide an alternative mode of action? *Insert 1point*	Downy mildew is susceptible to pesticide resistance due to 7-10 day interval spray programs. Currently registered FRAC groups include: 4, 11, 21, 27, 33, 40, 43, 45 M1, M4, P5. FRAC group 49 is a new MOA; To be used in tank mix with other DM fungicides to prevent resistance (high flexibility of choices) **(1)**	Downy mildew is susceptible to pesticide resistance due to 7-10 day interval spray programs. Currently registered FRAC groups include: 4, 11, 21, 27, 33, 40, 43, 45 M1, M4, P5. FRAC group 49 is a new MOA; Used in tank mix with other DM fungicides to prevent resistance **(1)**	FRAC group BM02 is a new MOA not currently registered **(1)**	The active ingredient is a unique isolate of *Bacillus nakamurai* strain F727 (previously *B. amyloliquifaciens* strain F727) with a combination of lipopeptides and ISR/SAR mode of action – FRAC group BM02 is a new MOA not currently registered **(1)**	
15. Are there any crop grouping MRL opportunities? *(1 point per crop group)*	N / A **(0)**	N / A **(0)**	N / A **(0)**	N / A **(0)**	
16. Comments (Please use this space to make a memo of any other information that might be points of consideration such as JMPR cycle, CODEX, EPA, EU registration/MRL status, ability of a product to control multiple pest priorities, can be used across multiple crops, one formulation or premix combination used in one part of the world, regulatory needs, etc. No specific points, but useful information	New AI: US/CAN company submission timeline of Q1 2022, launch expected in Q4 2024. Registrant can only support a foliar application at this time since they do not have the needed metabolism studies for a soil use.	**Oxathiapiprolin:** No CODEX MRL EU MRL = 0.05 ppm (proposed 8 ppm) US MRL = 5 ppm CAN MRL = 5 ppm **Mandipropamid:** CODEX MRL = 90 ppm EU MRL = 90 ppm US MRL = 50 ppm CAN MRL = 50 ppm **Mefenoxam (metalaxyl-m):** CODEX MRL= 10 ppm EU MRL = 15 ppm US MRL = 20 ppm CAN MRL = 8 ppm	Exempt from residues, would only need efficacy. Anticipated EPA registration in the second half of 2021	Registered in US; Exempt from residues according to US EPA. OMRI	
TOTAL POINTS	**(17)**	**(15)**	**(9)**	**(10)**	
GRAND TOTAL					**(51)**

*if not specified otherwise in the ‘criteria’ box, assign 1 point per solution in gray boxes only.