1. Anything on facultative host plant use for insect vectored pathogens in crops (NOT an obligate alternative host plant)

Angelella GM, Michel AP, Kaplan I (2019) Using host-associated differentiation to track source population and dispersal distance among insect vectors of plant pathogens. Evolutionary Applications 12(4). <https://doi.org/10.1111/eva.12733>

* Cowpea aphid on 2 host plants (alfalfa and locust) and dispersal distance of vector alates spreading disease
* Uses phenotypic changes in populations derived from host-associated differentiation to infer movement within crop systems and their damage potential
* Access: WSU Libraries
* GSoA (Gabi Stamp of Approval: I’m no doctor, but I think this source is particularly useful!)

Brown A, Myers JH (2010) Temporal and spatial variability of rosy apple aphid Dysaphis plantaginea populations: is there a role of the alternative host plant Plantago major?. Agricultural and Forest Entomology 12(4). <https://doi.org/10.1111/j.1461-9563.2010.00477.x>

* Access: WSU Libraries
* Rosy apple aphid using plantains as alternative host to apples
* Testing if plantain understories could be used in apple orchards as pest managment

Chisholm PJ, Eigenbrode SD, Clark RE, Basu S, Crowder DW (2019) Plant-mediated interactions between a vector and a non-vector herbivore promote spread of a plant virus. Proceedings of the Royal Society 286(1911). <https://doi.org/10.1098/rspb.2019.1383>

* Access: WSU Libraries
* You know this one! PEMV-infected pea aphids and non-vector weevils coexist and alter host plant quality and increase susceptibility to spread of disease

Davis TS, Wu Y, Eigenbrode SD (2015) Chickpea variety and phenology affect acquisition of Pea enation mosaic virus, subsequent plant injury and aphid vector performance. Annals of Applied Biology 167(3): 420-425. doi:10.1111/aab.12239

* Access: WSU Libraries
* PEMV infecting chickpea (2 species) from aphid vectors the reduce plant quality
* Plant age/height influenced pea aphid performance
* GSoA: very relevant

Finch S, Collier RH (2003) Host-plant selection by insects- a theory based on ‘appropriate/inappropriate landings’ by pest insects of cruciferous plants. Entomologia Experimentalis et Applicata 96(2). <https://ntserver1.wsulibs.wsu.edu:2137/10.1046/j.1570-7458.2000.00684.x>

* Access: Google Scholar
* Theory of host plant selection: insects will equally land on host and nonhost plants, but will avoid landing on nonliving things like soil (determined with visual cues)
* Choice between non-host and host plant selection is based on volatile/nonvolitile plant chemicals (olfactory cues)

Gautheier JP, Outreman Y, Mieuzet L, Simon JC (2015) Bacterial Communities Associated with Host-Adapted Populations of Pea Aphids Revealed by Deep Sequencing of 16S Ribosomal DNA. PLoS ONE 10(3). https://doi.org/10.1371/journal.pone.0120664

* Access: Google Scholar
* Mutualism between microbial bacteria on legumes and pea aphids (bacteria lowers the host’s ability to protect against aphids, and aphids spread the bacteria to other host plants

Gray S, Gildow FE (2003) Luteovirus-Aphid Interactions. Annual Review of Phytopathology 41: 539-566. doi: 10.1146/annurev.phyto.41.012203.105815

* Access: WSU Libraries
* Biological details about endocytic virus transmission using aphid vectors

Henessey JM (2019) Aphid pests and aphid-transmitted viruses in fall-sown dry pea (Pisum sativum) in the Inland Pacific Northwest Region. ProQuest Dissertations Publishing.

* Access: Google Scholar
* Dissertation from one of Sanfords students at UofI (not positive these are appropriate for citing, but the information was at least worth looking at)
* Looks at pea crops and PEMV transmission by pea aphids (and BLRV) to determine threat levels to Palouse agriculture
* Determined aphid abundance *using pan trap methods* and tested for virus
* Uses time-series to determine timing of pathogen transmission (pea subject to greater yield loss if inoculated with virus in fall than spring- inoculation period)

1. Anything on tracking populations of pathogens or insect pests in non-agricultural habitat to predict threat to crops that are adjacent

Bernal, JS Medina RF (2018) Agriculture sows pests: how crop domestication, host shifts, and agricultural intensification can create insect pests from herbivores. Current Opinion in Insect Science 26: 76-81. <https://doi.org/10.1016/j.cois.2018.01.008>

* Access: WSU Libraries
* Agricultural practices turn herbivores to pests and promotes their population growth

Cornara D, Saponari M, Zeilinger AR, de Stradis A, Boscia D, Loconsole G, Bosco D, Martelli GP, Almeida, RPP, Porcelli F (2016) Spittlebugs as vectors of Xylella fastidiosa in olive orchards in Italy. Journal of Pest Science 90(2): 521-530. DOI 10.1007/s10340-016-0793-0

* Access: WSU Libraries
* Spittlebugs move from weeds beneath trees in the dry period of the year to the olive tree canopy
* Disease is harbored in a few infected host trees from previous season (not alternative host plant) and spread across orchard in dry season

El Sheikha AF (2019) Tracing insect pests: is there new potential in molecular techniques? Insect Molecular Biology 28(6): 759-772. <https://doi.org/10.1111/imb.12601>

* Access: WSU Libraries
* Emphasizes importance of spatial/temporal tracking of insect pests in agriculture
* Reviews molecular techniques of insect tracking (including PCR, which *may* be what was used for the molecular part of this experiment- can’t remember for sure)

Kenis M, Tonina L, Eschen R, van der Sluis B, Snacassani M, Mori N, Haye T, Helsen H (2016) Non-crop plants used as hosts by Drosophila suzukii in Europe. Journal of Pest Science 89: 735-748. DOI 10.1007/s10340-016-0755-6

* Access: WSU Libraries
* An Asian fruit fly species with a wide host-plant range (wild and cultivated)
* Measured abundance of flies on different non-crop host species

Wu N, Zhang L, Ren Y, Wang X (2020). Rice black-streaked dwarf virus: From multiparty interactions among plant-virus-vector to intermittent epidemics. Molecular plant pathology 21(8): 1007-1019. DOI: 10.1111/mpp.12946

* Access: Google Scholar
* Suggests using RNA-interference and gene editing of the insect vector for disease control of vectored crop pathogens that depend on the migration of insects for transmission and spread of disease

1. Literature demonstrating that pea aphids and PEMV both perform well on vetch in other agricultural regions

Khudr MS, Guildbaud CE, Preziosi RF (2017) Host plant and competitor identity matter in genotype x genotype x environment interactions between vetch and pea aphids. Ecological Entomology 42: 565-576. DOI: 10.1111/een.12418

* Access: WSU Libraries
* Performance of vetch aphid compared to pea aphids on vetch alone and in presence of each other (competition drives population growth- reciprocity) in UK
* Genotype of aphid species changes risk of spread (intraspecific genetic variation)
* This one seems really good, its just a little over my head- definitely worth a gander

Leonardo TE, Muiru GT (2003) Facultative symbionts are associated with host plant specialization in pea aphid populations. Proceedings of the Royal Society B 270(2). <https://doi.org/10.1098/rsbl.2003.0064>

* Access: WSU Libraries
* Pea aphid host specialization in alfalfa and clover in NY often associated with bacterial symbionts (mention vetch as an alternative host)

Tsuchida T, Koga R, Mastumoto S, Fukatsu T (2011) Interspecific symbiont transfection confers a novel ecological trait to recipient insect. Biology Letters 7: 245-248. doi:10.1098/rsbl.2010.0699

* Access: WSU Libraries
* In Japan, pea aphids on vetch and clover have particular genotypes of facultative symbiont bacteria
* Lower bacterial fitness on vetch compared to on clover

Nikolova I (2017) Factors affecting on the susceptibility of vetch cultivars to infestation by Acyrthosiphon pisum L. (Hemiptera, Aphididae). Russian Journal of Ecology 48:482-490. https://doi.org/10.1134/S1067413617050095

* Access: Google Scholar
* Compare vetch species as pea aphid hosts (density affected by branch and leaflet numbers more than by height and flowering)
* Somewhere in Russia

Wale M, Jembere B, Seyoum E (2003) Occurrence of the pea aphid Acyrthoriphon pism (Harris) (Homoptera: Aphididae) on wild leguminous plants in West Gojam, Ethiopia. SINET: Ethiopian Journal of Science 26(1): 83-87. eISSN: 2520–7997

* Access: Google Scholar
* In Ethiopia, pea aphid on wild annual/perennial leguminous plants, including vetch
* Higher aphid density in high vegetation density stands and stand of only one species (suggests intercropping as pest management method)

1. Any papers using “time series” models to predict vector borne plant pathogens (NOT human diseases)

Abodayeh K, Raza A, Arif MS, Rafiq M, Bibi M, Fayyaz R (2020) Numerical Analysis of Stochatic Vector Borne Plant Disease Model. Computers, Materials, and Continua 63(1): 65-83. doi:10.32604/cmc.2020.08838

* Access: Google Scholar
* Stochastic/deterministic vector borne plant disease model and evaluation of disease persistence

Brabec M, Honek A, Pekar S, Martinkova Z (2014) Population Dynamics of Aphids on Cereals: Digging in the Time-Series Data to Reveal Population Regulation Caused by Temperature. PLoS ONE 9(9): e106228. doi:10.1371/journal.pone.0106228

* Access: WSU Libraries
* Aphid periodic fluctuations on cereals measuring immigration, length of occurrence, magnitude/direction of influence, etc.

Burdon JJ, Thrall PH (2013) What have we learned from studies of wild plant-pathogen associations?- the dynamic interplay of time, space, and life-history. European Journal of Plant Pathology 138: 417-429. DOI:10.1007/s10658-013-0265-9

* Access: WSU Libraries
* Lists 7 important general spatial/temporal generalizations in host-pathogen dynamics in relation to disease epidemiology

Rafiq M, Raza A, Rafia (2017) Numerical modeling of transmission dynamics of Vector-Borne Plant pathogen. 14th Annual IBCAST: 188-193. <https://doi.org/10.1109/IBCAST.2017.7868057>

* Access: WSU Libraries
* Conference preceding on infectious disease spread/control in vectored plant diseases for standard finite and continuous dynamic systems

Shi R, Zhao H, Tang S (2014) Global dynamics analysis of a vector-borne plant disease model. Advances in Difference Equations, 59. https://doi.org/10.1186/1687-1847-2014-59

* Access: Google Scholar
* Large-scale temporal models of insect vector-borne plant epidemic to assess predicted stability and persistence of vectors and pathogens.

1. Methods papers that show pan traps are best way to catch aphid alates

Bachmann AC, Nault BA, Fleischer SJ (2014) Alate Aphid (Hemiptera: Aphididae) Species Composition and Richness in Northeastern USA Snap Beans and an Update to Historical Lists. Florida Entomologist 97(3): 979-994. <https://ntserver1.wsulibs.wsu.edu:2137/10.1653/024.097.0356>

* Access: WSU Libraries
* Used 20% propylene glycol pan traps baited with green ceramic tiles (n=56), checked weekly for aphids that were placed in 70% ethanol and processed for species abundance and composition surveys in ne US ag fields

Pelletier Y, Nie X, Giguere MA, Nanyakkara U, Maw E, Foottit R (2012) A New Approach for the Identification of Aphid Vectors (Hemiptera: Aphididae) of Potato Virus Y. Journal of Economic Entomology 105(6):1909-1914. <https://doi.org/10.1603/EC12085>

* Access: WSU Libraries
* Yellow pan traps with 50% propylene glycol for two months yearly (checked 3 times a week) to be collected and assessed for species abundance and tested for potato virus Y

Sano M, Ohki T, Takashino K, Toyoshima S, Maoka T (2019) Species Composition of Alate Aphids (Hemiptera: Aphididae) Harboring Potato Virus Y and the Harbored Virus Strains in Hokkaido, Northern Japan. Journal of Economic Enotmology 112(1): 85-90. <https://doi.org/10.1093/jee/toy309>

* Access: WSU Libraries
* Yellow pan traps in potato fields to collect aphids for species abundance and testing for potato virus Y (these aphids inhabit preseason weedy plants surrounding ag areas)

1. Methods papers that show sweep netting is an OK way to estimate aphid abundance

Honek A, Martinkova Z, Strobach J (2018) Effect of aphid abundance and urbanization on the abundance of Harmonia axyridis (Coletptera: Coccinellidae). European Journal of Entomology 115: 703-707. doi: 10.14411/eje.2018.069

* Access: WSU Libraries
* 28 sites along 20 km transect (100 sweeps per transect site)

Lundgren JG, Hesler LS, Anderson RL (2017) Preceding crop affects soybean aphid abundance and predator-prey dynamics in soybean. Journal of Applied Entomology 141(9): 669-676. <https://doi.org/10.1111/jen.12395>

* Access: WSU Libraries
* Sweeping about 50 times per plot (20 plants per plot until samples reached over 250 per plant- then they only sampled 10 plants per plot) and counted aphids as well as assessing/counting arthropod beetles that exited nets

Samaranaryake KGLI, Costamagna AC (2019) Adjacent habitat type affects the movement of predators suppressing soyben aphids. PLoS ONE 14(6): e0218522. <https://doi.org/10.1371/journal.pone.0218522>

* Access: Google Scholar
* Used sweep netting to estimate aphid abundance and to mark-release-recapture of lady beetles (aphid predators) adjacent to soybean fields

1. Methods papers on % cover in complex plant communities

Valdez JW, Hartig F, Fennel S, Poschold P (2019) The Recruitment Niche Predicts Plant Community Assembly Across a Hydrological Gradient Along Plowed and Undisturbed Transects in a Former Agricultural Wetland. Frontiers of Plant Science 10:88. doi: 10.3389/fpls.2019.00088

* Access: WSU Libraries
* Used Braun-Blandquet scale for percent cover along 4 m transects for all plant species present

Sankovitz MA, Breed MD, McCreery HF (2018) Effects of Formica podzolica ant colonies on soil moisture, nitrogen, and plant communities near nests. Ecological Entomology 44(1): 71-80. <https://doi.org/10.1111/een.12677>

* Access: WSU Libraries
* Determined plant species abundance in 20 quadrats by laying a 10X10 grid over each quadrant and counting number of square containing each species

Rew LJ, Taylor KT, Maxwell BD, Lehnoff EA (2018) Disturbance type influences plant community resilience and resistance to Bromus tectorum invasion in the sagebrush steppe. Applied Vegetation Science 21(3): 385-394. <https://doi.org/10.1111/avsc.12370>

* Access: WSU Libraries
* Recorded post-disturbance vegetation at 2 sites by estimating proportion of vegetation cover in each 1 square meter plot

1. Methods papers on landscape scale surveys looking for plant pathogens

Parnelll S, van den Bosch F, Gottwalk T, Gilligan A (2017) Surveillance to Inform Control of Emerging Plant Diseases: An epidemiological Perspective 51: 591-610. <https://doi.org/10.1146/annurev-phyto-080516-035334>.

* Access: WSU Libraries
* Show epidemiological insights on choosing when/where to do surveillance of disease

Pleydell DRJ, Soubeyrand S, Dallot S, Labonne G, Chadoeuf J, Jacquot E, Thebaud G (2018) Estimation of the dispersal distances of an aphid-borne virus in a patchy landscape. PLoS Computational Biology. <https://doi.org/10.1371/journal.pcbi.1006085>

* Access: WSU Libraries
* Characterizing spatio-temporal pathogen dynamics key to prevention/control
* Demonstrate disease dispersal distances best estimated in patchy landscape when disease control is ongoing

Bernardo P, Charles-Dominique T, Barakat M, Ortet P, Fernandez E, Filloux D, Hartnady P, Rebelo TA, Cousins SR, Mesleard F, et.al (2017) Geometagenomics illuminates the impact of agriculture on the distribution and prevalence of plant viruses at the ecosystem scale. The ISME Journal 12: 173-184. <https://doi.org/10.1038/ismej.2017.155>

* Access: Google Scholar
* Agriculture substantially influences plant virus distributions and highlight extent of current ignorance about diversity/role of viruses in nature