

# IMPROVING SEMIOCHEMICAL DEPLOYMENT THROUGH THE EVALUATION AND DEVELOPMENT OF RELEASERS

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## ABSTRACT

Release devices for semiochemicals remain relatively rudimentary, primarily due to constraints of cost and fragility. Passive releasers emit semiochemicals through a membrane or wick and are significantly affected by meteorological conditions, making the amount of semiochemical dispensed variable. This variation promotes inconsistencies and inefficiencies in field applications, which confound already complex interactions between semiochemical applications and insect behavior. Insect monitoring and detection programs, such as Early Detection Rapid Response (US FS, FHP), have little or no elution data to guide decisions on lure selection and deployment. Our project was implemented to meet the following objectives: to develop more consistent semiochemical releasers, to improve the utility of elution data through increased field-testing and standardization, and to increase the availability of elution data.

Active releasers offer hope for making semiochemical release more consistent—more independent from climatic conditions and longer lasting—and with reduced semiochemical waste. Puffer and pump technologies provide alternatives to the more frequently used passive devices but are more costly and complex. Standardizing field evaluation protocols and collecting meteorological and elution data simultaneously are integral to explaining release rates and improving their predictability. We evaluated field elution dynamics of more than 30 devices, based upon customer input and needs, at three locations during 2007 (Pineville, LA; Missoula, MT; and Susanville, CA). A web site, hosted by the U.S. Forest Service, Forest Health Technology Enterprise Team, is being developed to serve as a clearinghouse for data that describe release of semiochemicals from these and other commonly used devices. Content has been posted and continues to increase. The web address is <http://www.fs.fed.us/foresthealth/technology/elutionrate>.