

**SPONGY MOTH DATA SETS Jan. 2000, updated Sept. 2024 VK**

Location	Size of Plots / Size of Site	Number of Plots	Research Period
Teahouse Hill	1570.8 m <sup>2</sup> (75 m <sup>2</sup> each)	20 plots	1981-2005
North Canoe Hill	16 hectares	200 trees	1987-1998
Red Control Grid	2.75 hectares in 11x11 array, 15 m apart	121 points	1991-1998
Yellow Control Grid	2.75 hectares in 11x11 array, 15 m apart	121 points	1991-1998
Green Control Grid*	2.75 hectares in 11x11 array, 15 m apart	121 points	1991-1998
Red Experimental Grid*	2.75 hectares in 12x10 array, 15 m apart	121 points	1991-1998
Yellow Experimental Grid*	2.75 hectares in 11x11 array, 15 m apart	121 points	1991-1998
Green Experimental Grid*	2.75 hectares in 11x11 array, 15 m apart	121 points	1991-1998
Cary Forest Plots	500 m <sup>2</sup> circular	20 plots	1984-1999
BLAM** Cary Sites	7x7 array of traps, 15 m apart	10 plots	1988-1989
Black Rock Forest, NY	176.7 m <sup>2</sup>	50 plots	1983-1990
Bryant Mt., VT	176.7 m <sup>2</sup>	48 plots	1983-1992
North Stonington, CT	176.7 m <sup>2</sup>	16 plots	1983-1988
Otis Air Force Base, MA	176.7 m <sup>2</sup>	16 plots	1983-1987

\* Red, Yellow, Green Experimental & Green Control Grids were originally 1 ha in an 11x11 array each separated by 10 meters. They were set up in 1993-94 and expanded to 2.75 ha in late winter 1995.

\*\* An informal acronym that stands for Blow Away Mammals. It referred to the removal of small mammals (mice and chipmunks). They were relocated and not killed.

Name	Main Variables Measured	Location	Time
Spongy moth egg mass density and fecundity	New and old egg mass counts <2M and >2M on trees, rock, litter; egg mass length and width before and after egg hatch	Tea House Hill	1981-2005
		N. Cannoo Hill	1987-1998
		Red and Yellow Control	1991-1998
		Red, Yellow, Green Exper	1993-1998
		Green Control	1993-1998
		10 BLAM Cary sites	1988-1989
		Black Rock Forest	1983-1990
		Bryant Mt	1983-1991
		North Stonington, CT	1983-1987
Spongy moth egg mass hatch and parasitism	Count of eggs in mass with parasitized emergence holes, with two parasitized emergence holes, and count of unhatched eggs	Otis AFB, MA	1983-1987
		Tea House Hill	1981-2005
		N. Cannoo Hill	1988-1998
		Red and Yellow Control	1991-1998
		10 BLAM Cary sites	1988
		Red, Yellow, Green Exper	1993-1998
		Green Control	1993-1998
		Black Rock Forest	1984-1990
		Bryant Mt	1984-1990
Spongy moth late instar larval density	Time of day, total larval count under burlap bands by instar, count of dead larvae by instar with mortality agent, predators	North Stonington, CT	1984-1986
		Otis AFB, MA	1984-1986
		N. Cannoo Hill	1987-1988, 1991-1998
		Red and Yellow Control	1992-1998
		10 BLAM Cary sites	1989 (intensive)
		Black Rock Forest	1984-1990

		Red, Yellow, Green Exper	1995-1998
		Green Control	1995-1998
		Bryant Mt	1984-1988
		North Stonington, CT	1984-1988
		Otis AFB, MA	1984-1987
		N. Cannoo Hill	1991
		Black Rock Forest	1988-1989
		Bryant Mt	1988
		North Stonington, CT	1985-1986
		Otis AFB, MA	1984-1985
Spongy moth pupal density (at high density)	Pupal count by tree under burlap bands, eclosion fate, mortality agent		
Spongy moth post-eclosion pupal density (at low density or subsample)	Pupal length, sex, eclosion fate, mortality agent	N. Cannoo Hill	1991-1997
		Red and Yellow Control	1992-1998
		Red, Yellow, Green Exper	1995-1998
	1998 data for grids not entered from the natural pupation files	Green Control	1995-1998
		10 BLAM Cary sites	1989
		Black Rock Forest	1984-1990
		Bryant Mt	1984-1988
		North Stonington, CT	1984-1987
		Otis AFB, MA	1984-1985, 1987
Canopy photos using fisheye lens Jones method	Time of day, weather, roll #, plot #, F-stop, shutter speed, exposure #, film speed	Tea House Hill	1982-1983, 1991
		10 BLAM Cary sites	1989
		Black Rock Forest	1984-1989
		Bryant Mt	1984-1992
		North Stonington, CT	1984-1986
		Otis AFB, MA	1984
Canopy photos using Canham method	Time of day, weather, roll #, plot # F-stop, shutter speed, exposure #, film speed (over seedling quadrats except for Tea House)	Tea House Hill	1991-1998
		Red and Yellow Control	1993-1997
		Cary Forest Plots	1993-1997
Canopy photo analysis using 64 point radial grid (Jones method)	Count of sky points in each of 4 concentric circles	Tea House Hill	1982-1983, 1991
		Bryant Mt	1984-1992
Visual estimation of defoliation	Tree, 0-100% defoliation rank, reflush noted	Tea House Hill	1991
		N. Cannoo Hill	1991
		Red and Yellow Control	1991
Canopy census	Tree, 0-100% defoliation rank, status, dieback, damage, disease/ pests, reproduction	Red and Yellow Control	1993-2000, 2002
		Cary Forest Plots	1993-2000, 2002
		Nutrient Cycling Plots	1993-2000, 2002
Vegetation survey (woody)	Diameter at breast height, total height, canopy height, genus, species, live/dead, (>7cm DBH and >2M tall)	Tea House Hill	1981, 1991
		Black Rock Forest	1984
		Bryant Mt	1984
		North Stonington, CT	1984
		Otis AFB, MA	1984
	Tree #, DBH (>10 cm), species, live/dead	Cary Forest Plots	1984, 1993-1999
	Tree mapping data, species, DBH	Red and Yellow Control	1992/1994

	(>7 cm & >10 cm)	Cary Forest Plots Nutrient Cycling Plots	1993 1993
	Species, height, diameter, (<1 M tall)	Tea House Hill	1981, 1983
	Tree location description, X and Y coordinates, DBH (>7 cm), <i>Q. prinus</i> only	N. Cannoo Hill	1987-1998
	Station, tree#, DBH (>7cm), species, live/dead	Red, Yellow, Green Exp Green Control	1994-1998 1994-1998
Seedling establishment	Species, location, height, growth, browse	Red and Yellow Control Cary Forest Plots	1993-1999 1993-1999
Seed production	Seed tallies by trap & by species, seed maturity, seed weight	Red and Yellow Control Cary Forest Plots	1992-2005 1993-2000
Habitat structure	Cover estimates (0-5, 1-5) for total vegetation, bare ground, woody shrubs, bare rock, herbs, rock overhang, rock <1m, rock >1m, grasses & sedges, woody debris	Black Rock Forest Bryant Mt North Stonington, CT Otis AFB, MA	1985 1985 1985 1985
Mechanisms of spongy moth release (BLAM experiment and 1995, 1997, 1998 animal removals)*	<p><b>Vegetation:</b> Genus, species, DBH Genus, species</p> <p>1-5 ranked cover of total vegetation, bare ground, woody shrubs, woody debris, rock, dominant spp, for 2 size classes (0-1, 1-2 m) in 25 M<sup>2</sup> plots; fruit sampling: presence, abundance, ripeness (in transects within trapping grids)</p> <p>Presence or absence of vegetation cover in 1.5x1.5 M surrounding bait station, dominant species</p> <p><b>Larval &amp; pupal persistence:</b> (Mark/recapture), # new (by instar for larvae), # previously marked, # exuviae, # dead with mortality agent, sex (pupae), fate (eclosed/not eclosed)</p> <p><b>Pupal predation data:</b> Pupal sex, final state (dead, eclosed, missing, predation by vertebrate or invertebrate) with date - live bait</p> <p>Habitat (dbh or base), sex, predation fate (vert/invert), evidence (<i>Peromyscus</i> teeth, other teeth, inferred), date of attack - dried pupae</p>	<p>10 BLAM Cary sites 12 plots per trap grid (RC,YC,GC,RE,YE,GE) Black Rock Forest Bryant Mt</p> <p>Black Rock Forest Bryant Mt</p> <p>10 BLAM Cary sites</p> <p>10 BLAM Cary sites Black Rock Forest</p> <p>Red, Yellow Control grids Red, Yellow, Green Exp. Green Control</p>	<p>1989 1995-1998 1988 1988</p> <p>1988 1988</p> <p>1989</p> <p>1989 1988</p> <p>1993-1998 1994-1998 1994-1998</p>

**Natural pupation data:**

Date pupation, sex, fate (eclosed/not), fate  
date, mortality agent (predation/other)

Red and Yellow Control	1994-1998
Red, Yellow, Green Exp.	1995-1998
Green Control	1995-1998

**Pupal viral analysis**

Black Rock Forest	1988
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\*In 1995, mice & chipmunks were removed from 3 Exper. In 1997, mice were removed. In 1998, chipmunks were removed from 3 Exper. grids.