\*Modeling the influence of blooming forb coverage on total bee richness;

\*Year 1

\*Load in the data;

proc import out = beerichness\_year1

datafile = 'C:/Users/Morgan/Documents/ISU/Project/SAS/Data Files/full/Condensed\_Year1.xlsx'

dbms = xlsx

replace;

getnames = yes;

datarow = 2;

run;

\*Print the data to make sure it loaded okay;

proc print data = beerichness\_year1;

run;

\*Species richness mixed effects model;

proc glimmix data = beerichness\_year1 plots = studentpanel;

class Site;

model TotalSpeciesRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*Genus richness mixed effects model;

proc glimmix data = beerichness\_year1 plots = studentpanel;

class Site;

model TotalGenusRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*Family richness mixed effects model;

proc glimmix data = beerichness\_year1 plots = studentpanel;

class Site;

model TotalFamilyRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*Year 2

\*Load in the data;

proc import out = beerichness\_year2

datafile = 'C:/Users/Morgan/Documents/ISU/Project/SAS/Data Files/full/Condensed\_Year2.xlsx'

dbms = xlsx

replace;

getnames = yes;

datarow = 2;

run;

\*Print the data to make sure it loaded okay;

proc print data = beerichness\_year2;

run;

\*Species richness mixed effects model;

proc glimmix data = beerichness\_year2 plots = studentpanel;

class Site;

model TotalSpeciesRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*Genus richness mixed effects model;

proc glimmix data = beerichness\_year2 plots = studentpanel;

class Site;

model TotalGenusRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*Family richness mixed effects model;

proc glimmix data = beerichness\_year2 plots = studentpanel;

class Site;

model TotalFamilyRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*Year 3

\*Load in the data;

proc import out = beerichness\_year3

datafile = 'C:/Users/Morgan/Documents/ISU/Project/SAS/Data Files/full/Condensed\_Year3.xlsx'

dbms = xlsx

replace;

getnames = yes;

datarow = 2;

run;

\*Print the data to make sure it loaded okay;

proc print data = beerichness\_year3;

run;

\*Species richness mixed effects model;

proc glimmix data = beerichness\_year3 plots = studentpanel;

class Site;

model TotalSpeciesRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*Genus richness mixed effects model;

proc glimmix data = beerichness\_year3 plots = studentpanel;

class Site;

model TotalGenusRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*Family richness mixed effects model;

proc glimmix data = beerichness\_year3 plots = studentpanel;

class Site;

model TotalFamilyRichness = PercentCover / dist = poisson s ddfm = sat;

random Site;

run;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*Years 1 and 2

\*Load in the data;

proc import out = beerichness\_years12

datafile = 'C:/Users/Morgan/Documents/ISU/Project/SAS/Data Files/full/Condensed\_Years12.xlsx'

dbms = xlsx

replace;

getnames = yes;

datarow = 2;

run;

\*Print the data to make sure it loaded okay;

proc print data = beerichness\_years12;

run;

\*Species richness mixed effects model;

proc glimmix data = beerichness\_years12 plots = studentpanel;

class Site Year;

model TotalSpeciesRichness = PercentCover|Year / dist = poisson s ddfm = sat;

random Site;

run;

\*Genus richness mixed effects model;

proc glimmix data = beerichness\_years12 plots = studentpanel;

class Site Year;

model TotalGenusRichness = PercentCover|Year / dist = poisson s ddfm = sat;

random Site;

run;

\*Family richness mixed effects model;

proc glimmix data = beerichness\_years12 plots = studentpanel;

class Site Year;

model TotalFamilyRichness = PercentCover|Year / dist = poisson s ddfm = sat;

random Site;

run;

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*Years 1, 2, and 3

\*Load in the data;

proc import out = beerichness\_years123

datafile = 'C:/Users/Morgan/Documents/ISU/Project/SAS/Data Files/full/Condensed\_Years123.xlsx'

dbms = xlsx

replace;

getnames = yes;

datarow = 2;

run;

\*Print the data to make sure it loaded okay;

proc print data = beerichness\_years123;

run;

\*Species richness mixed effects model;

proc glimmix data = beerichness\_years123 plots = studentpanel;

class Site Year;

model TotalSpeciesRichness = PercentCover|Year / dist = poisson s ddfm = sat;

random Site;

run;

\*Genus richness mixed effects model;

proc glimmix data = beerichness\_years123 plots = studentpanel;

class Site Year;

model TotalGenusRichness = PercentCover|Year / dist = poisson s ddfm = sat;

random Site;

run;

\*Family richness mixed effects model;

proc glimmix data = beerichness\_years123 plots = studentpanel;

class Site Year;

model TotalFamilyRichness = PercentCover|Year / dist = poisson s ddfm = sat;

random Site;

run;