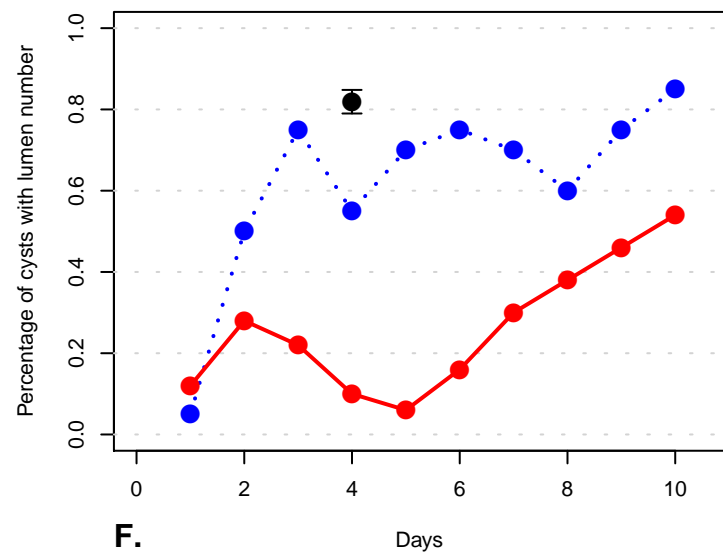
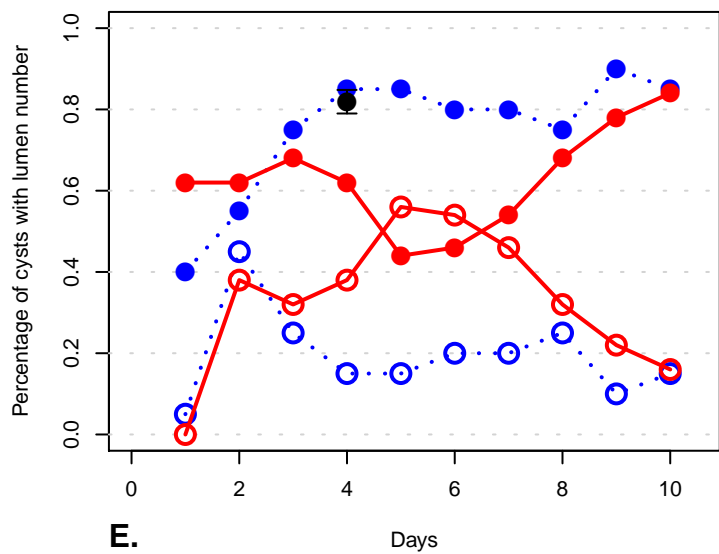
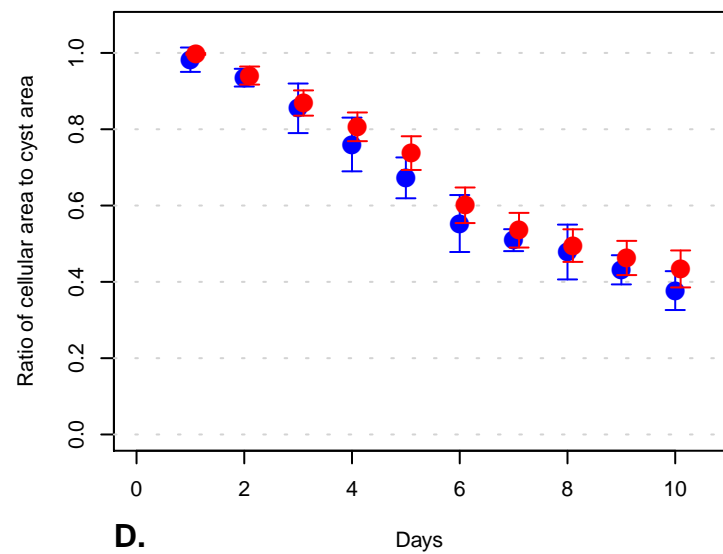
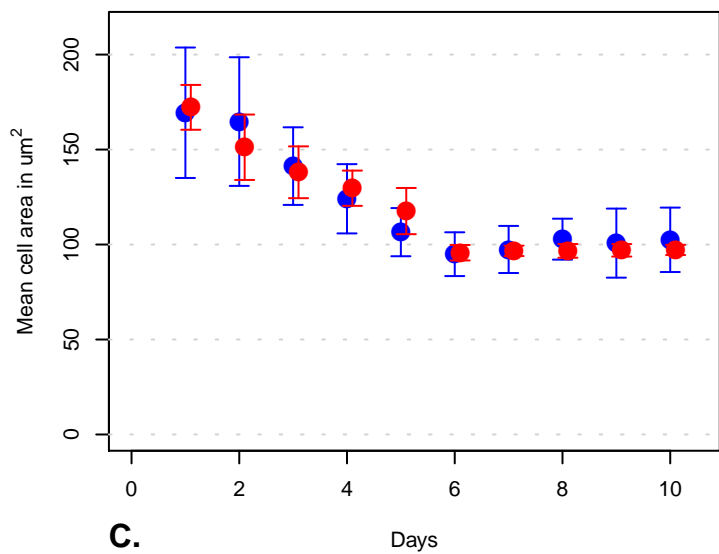
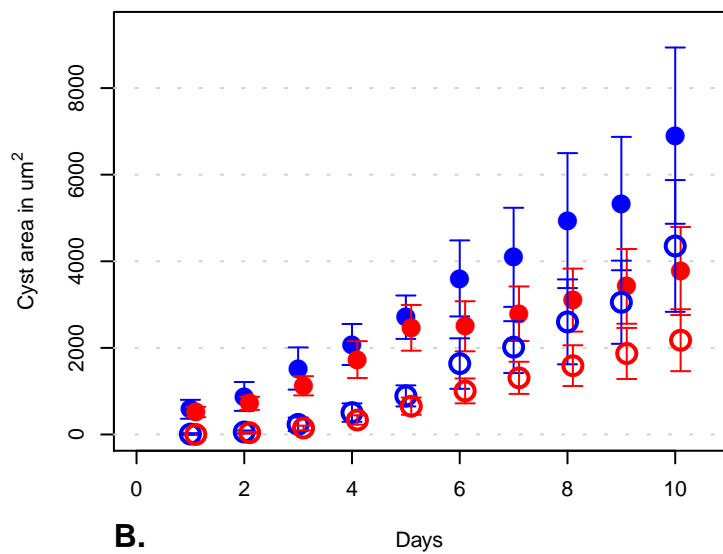
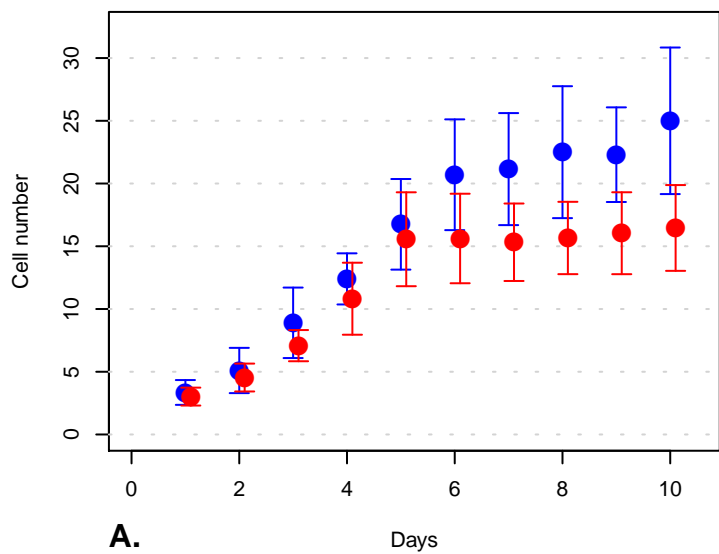


**Figure S11-1) TS ISMA with random DIVISION**



**Figure S11-2) TS ISMA with reversed DIVISION**

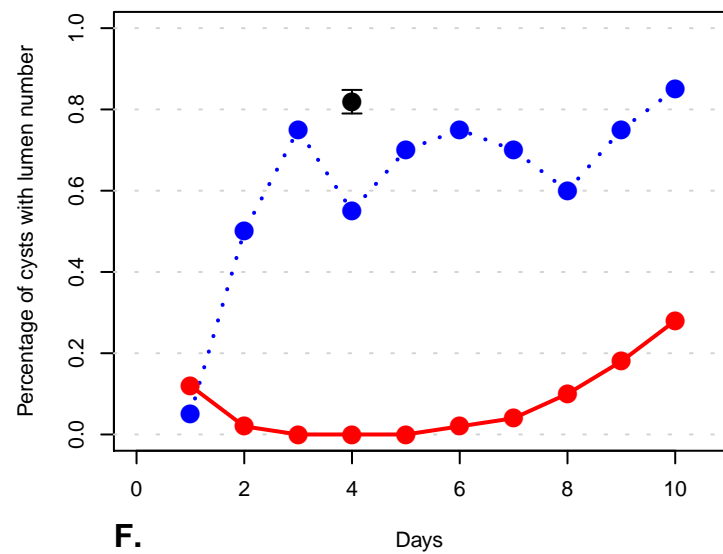
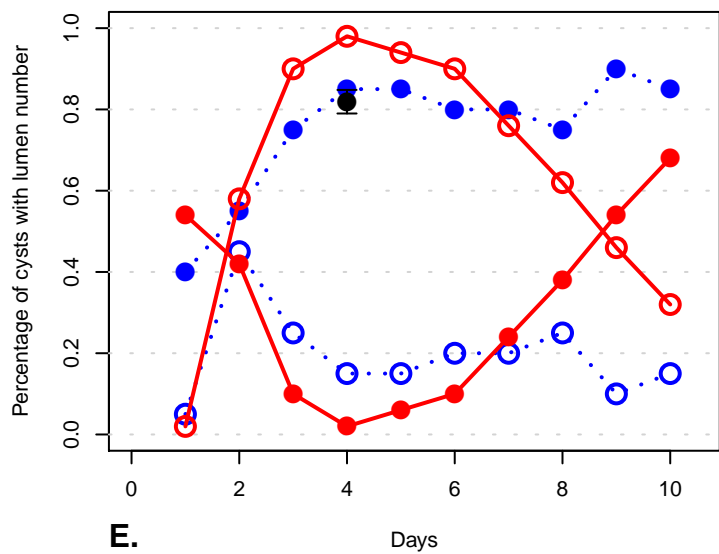
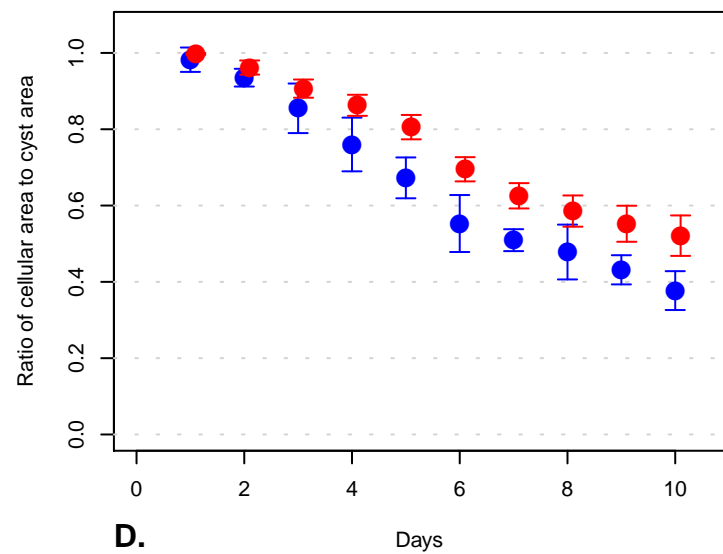
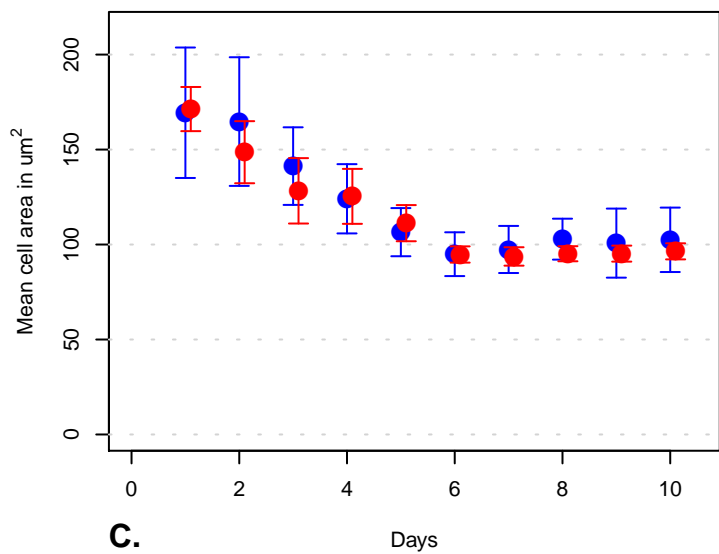
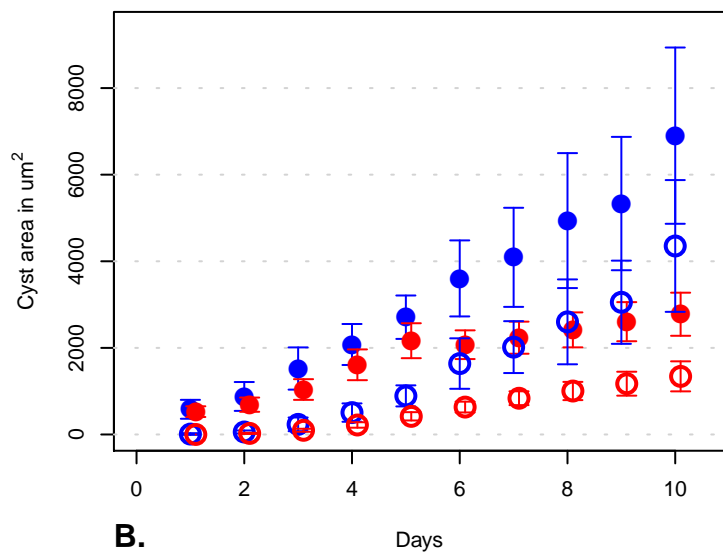
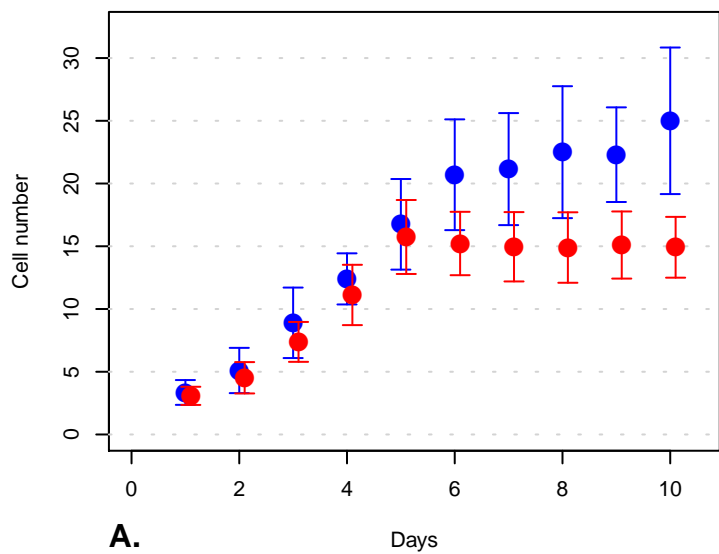


Figure S11-3) TS ISMA with no LUMINAL CELL DEATH

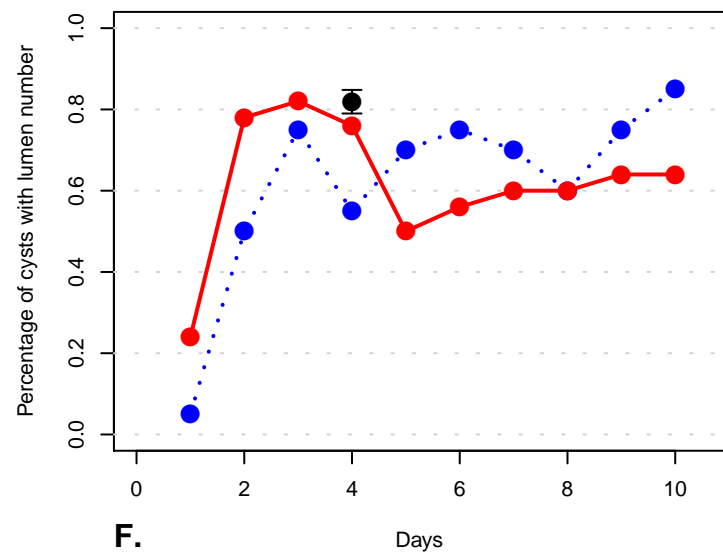
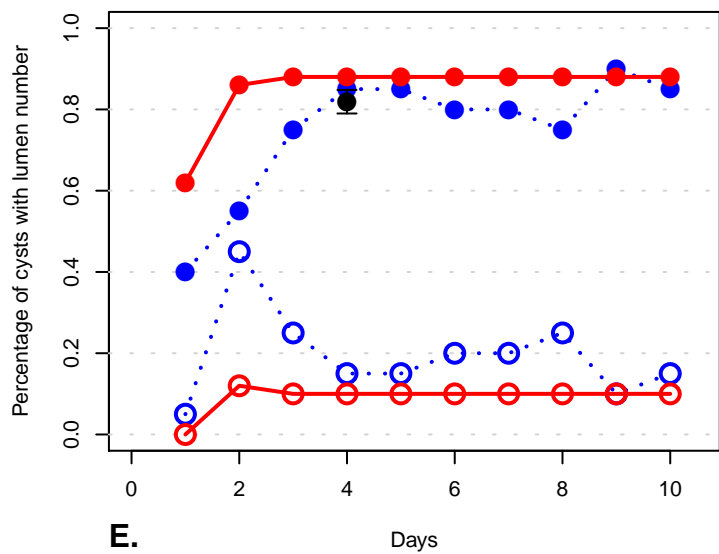
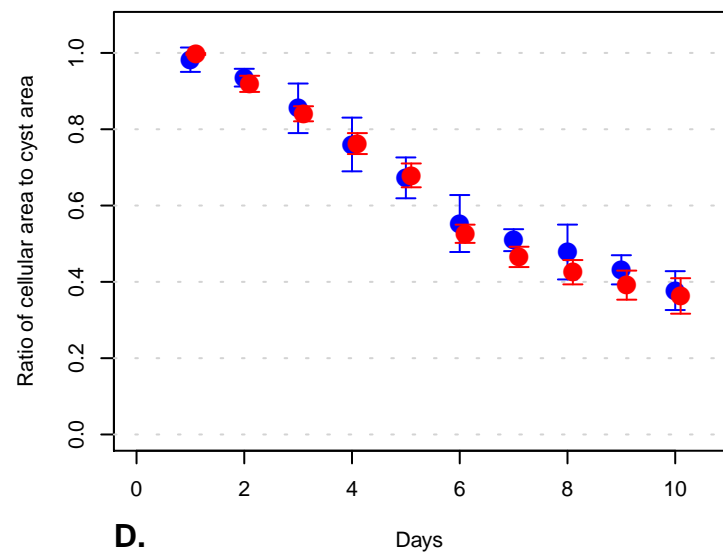
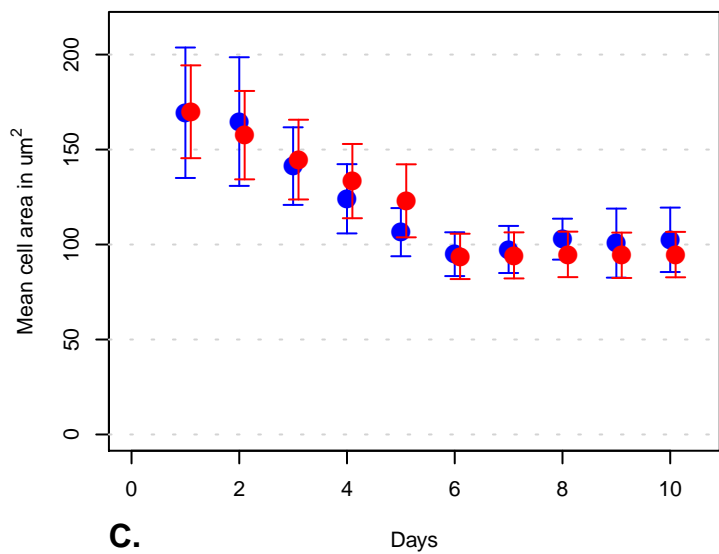
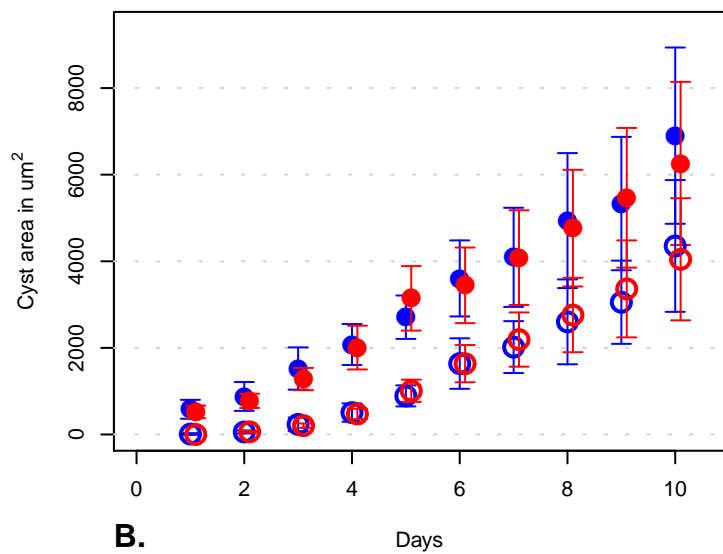
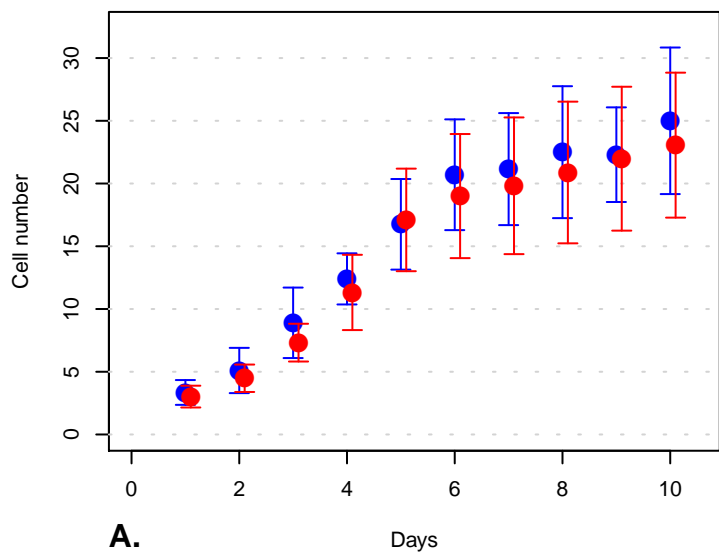
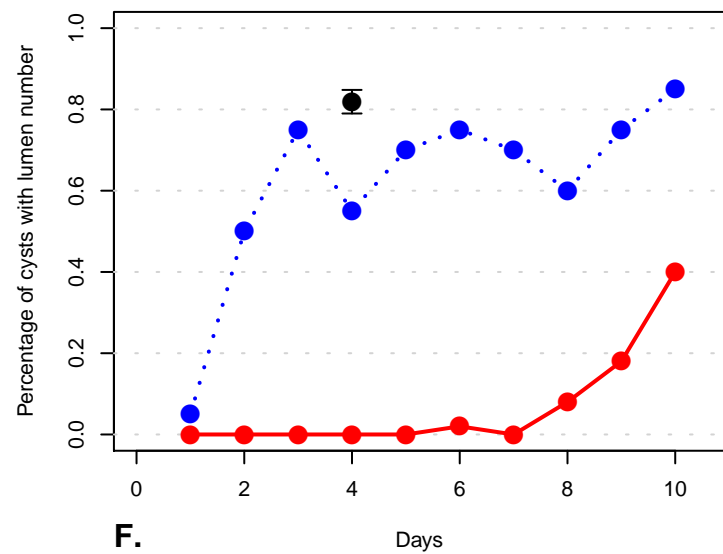
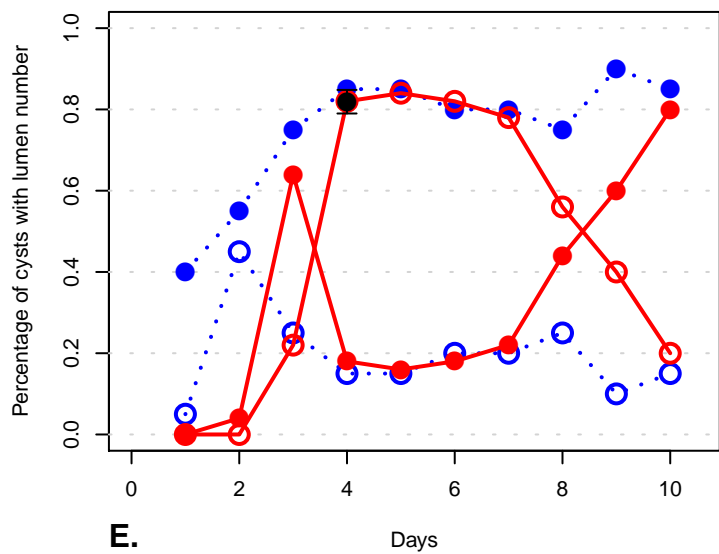
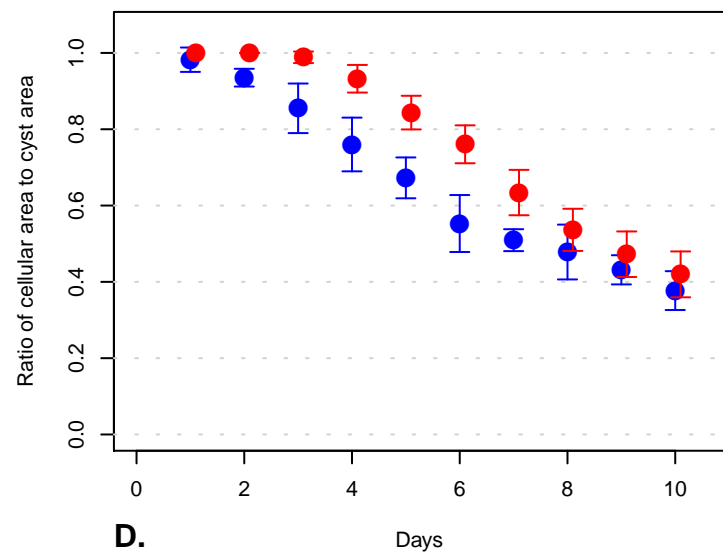
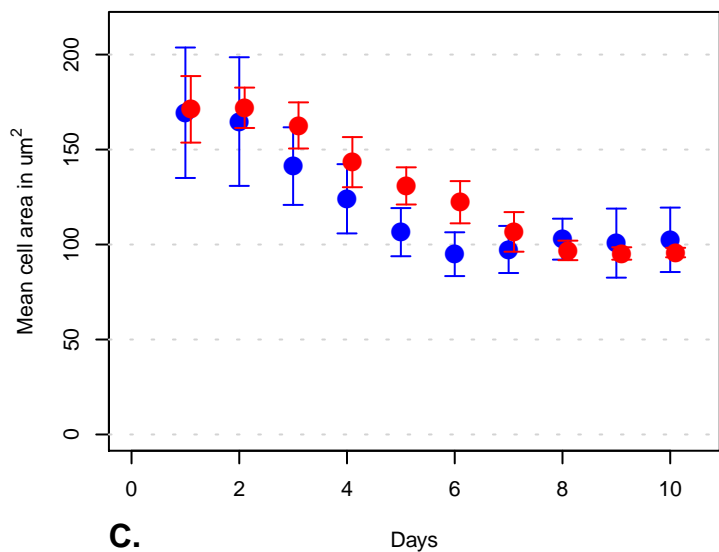
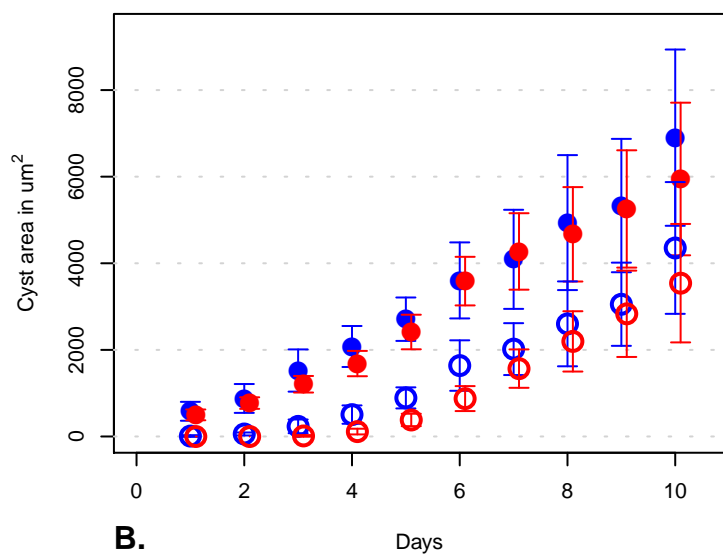
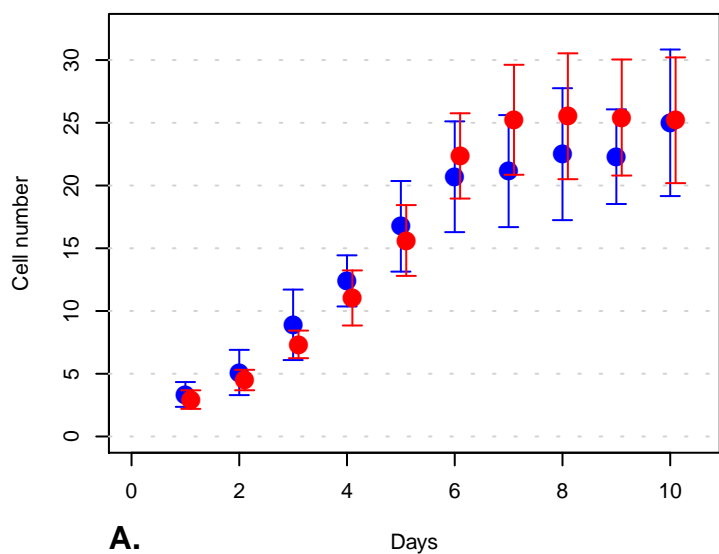
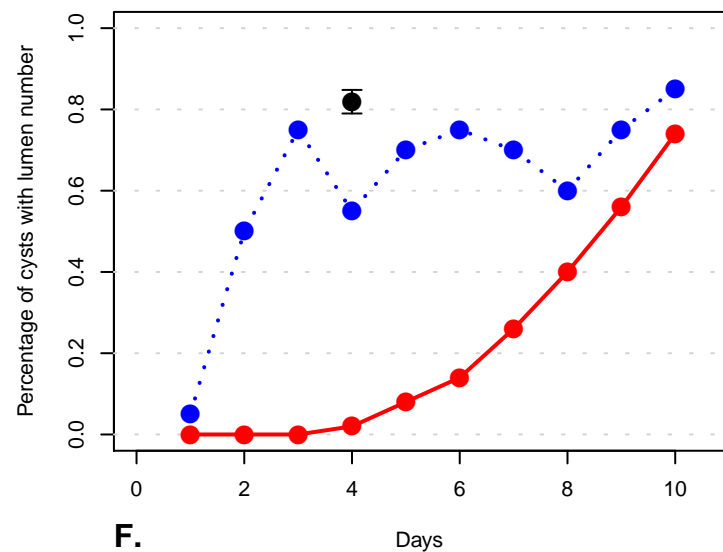
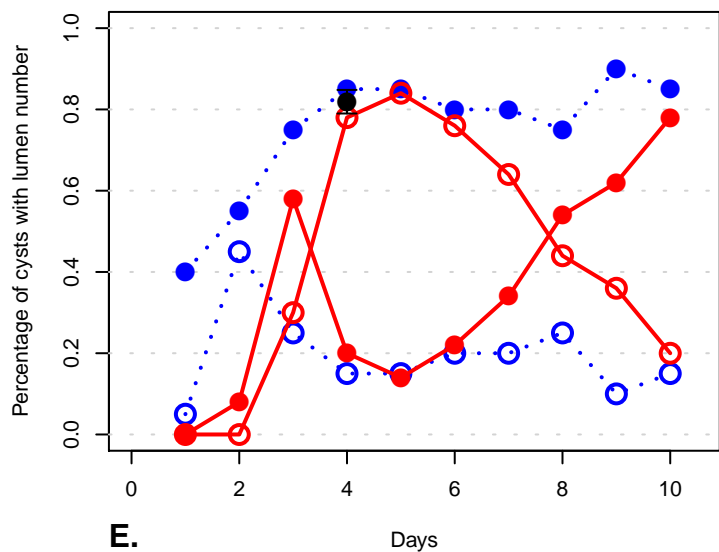
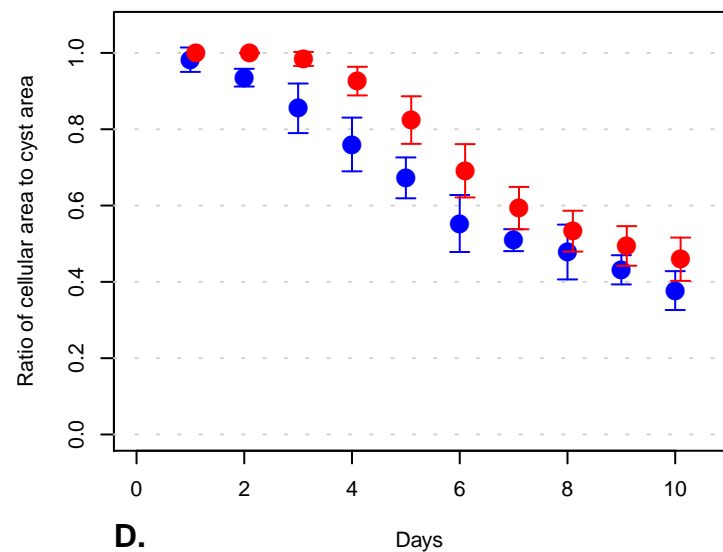
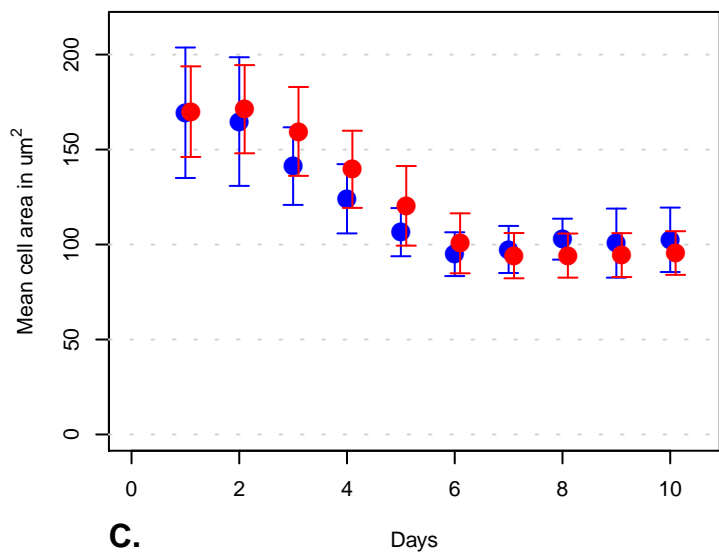
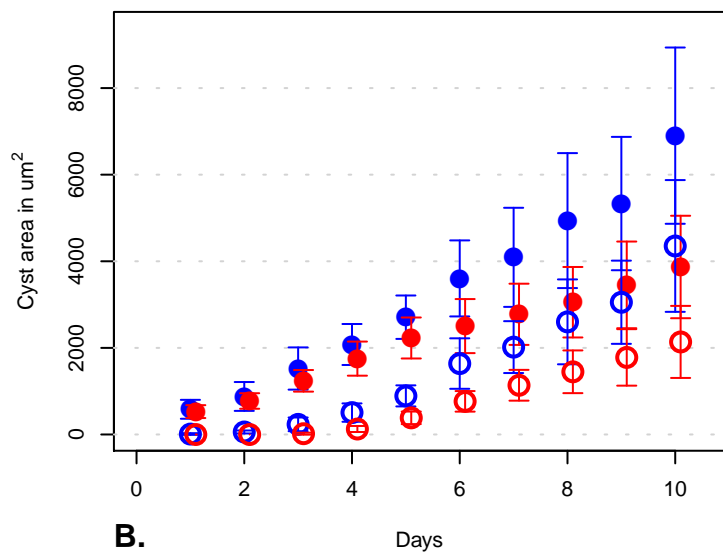
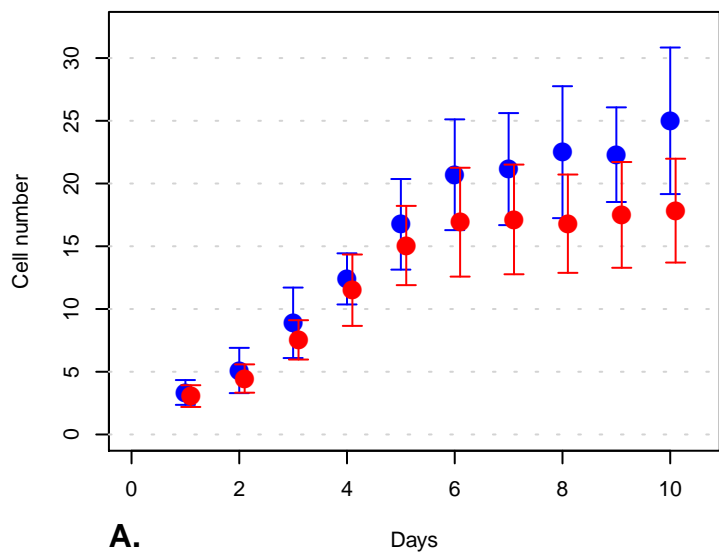


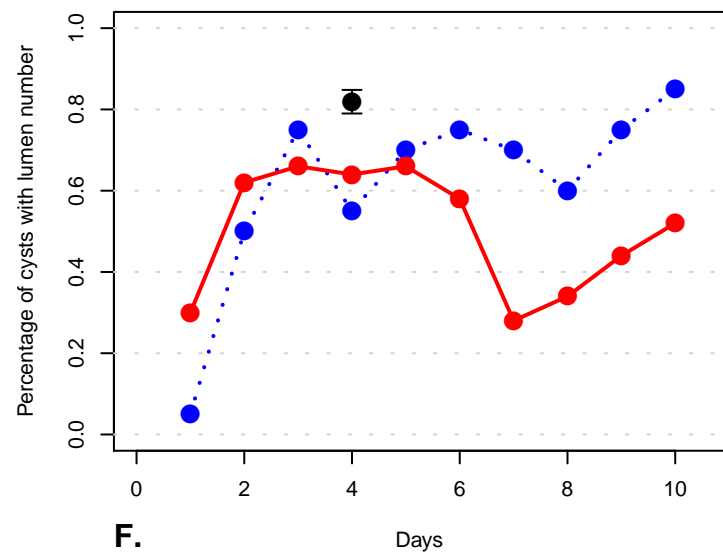
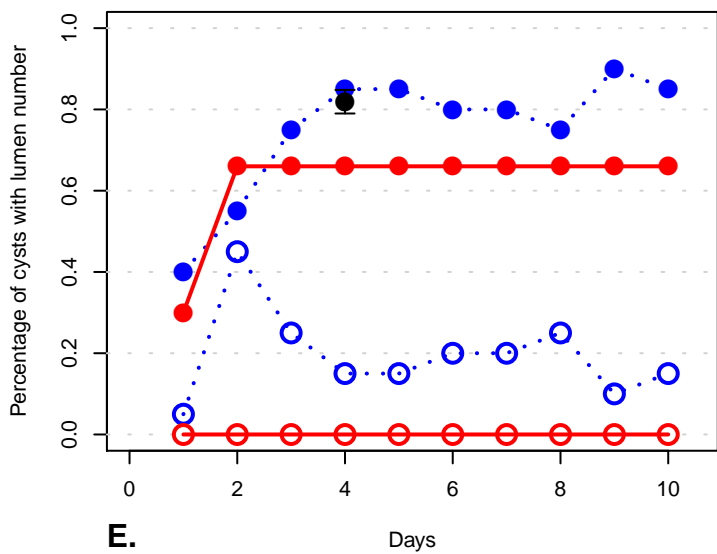
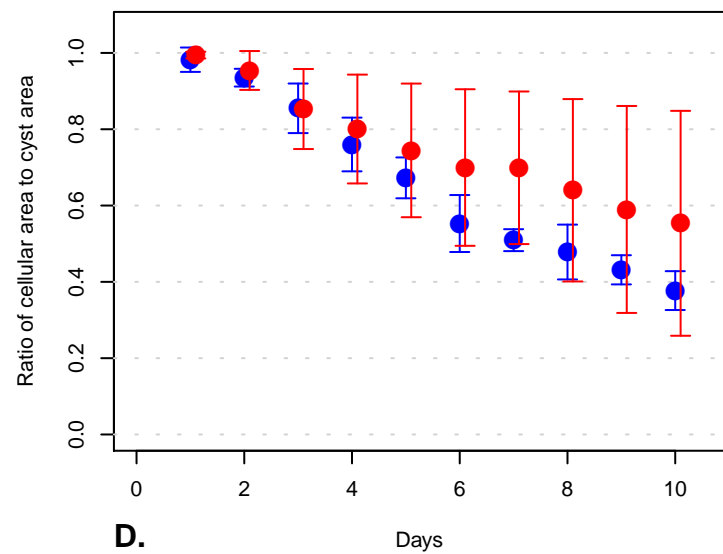
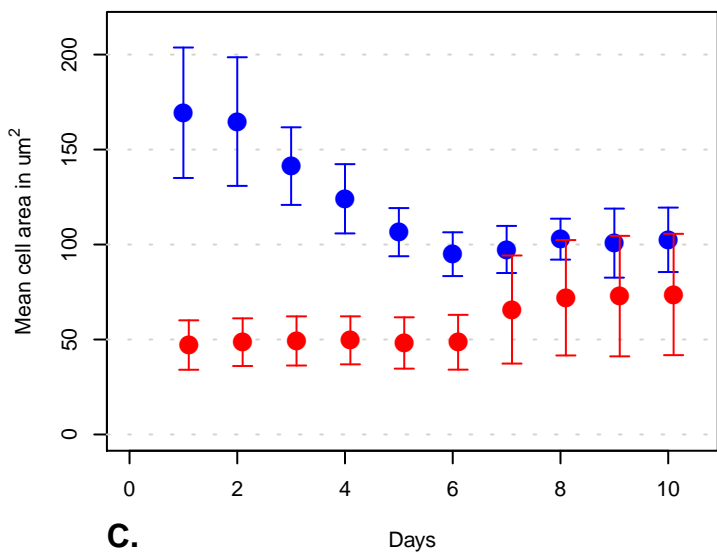
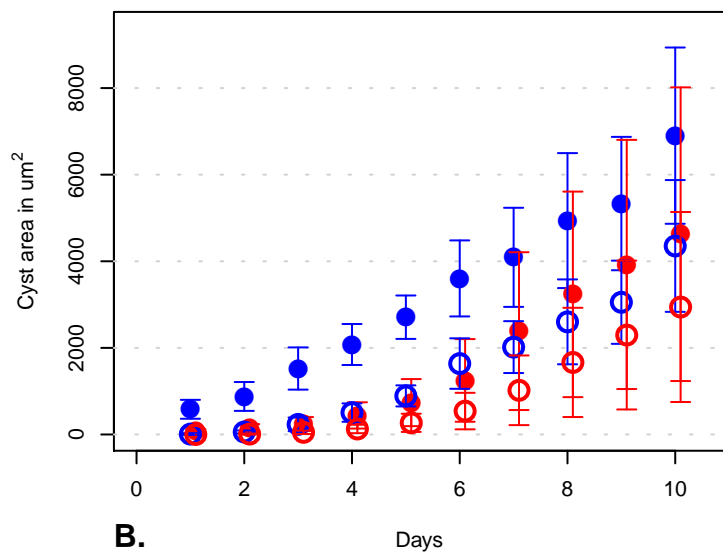
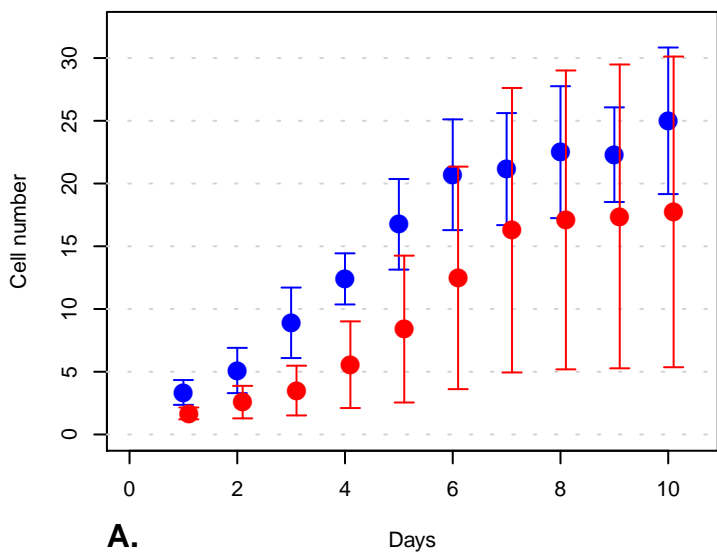
Figure S11-4) TS ISMA with polarDelay = 130



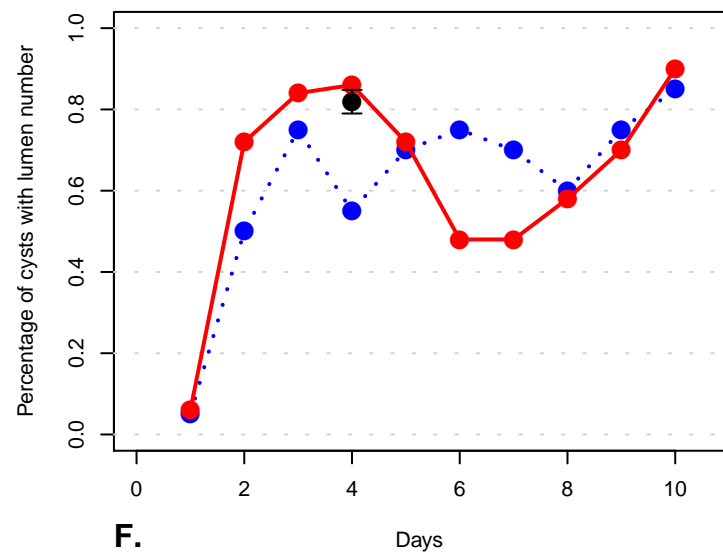
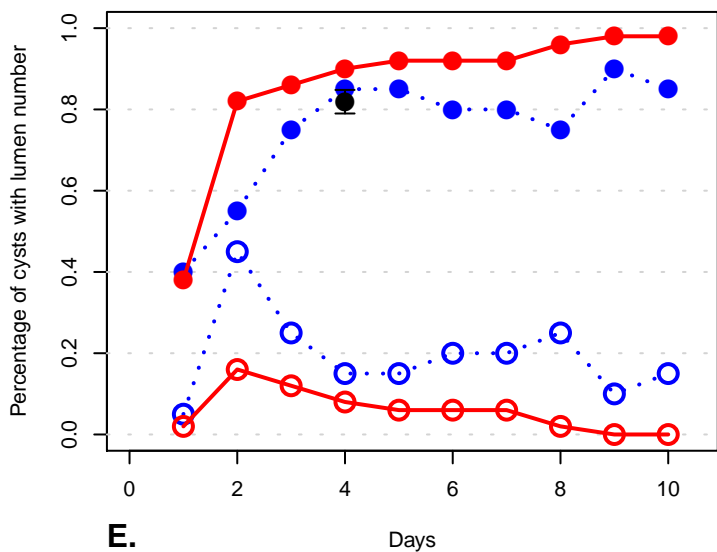
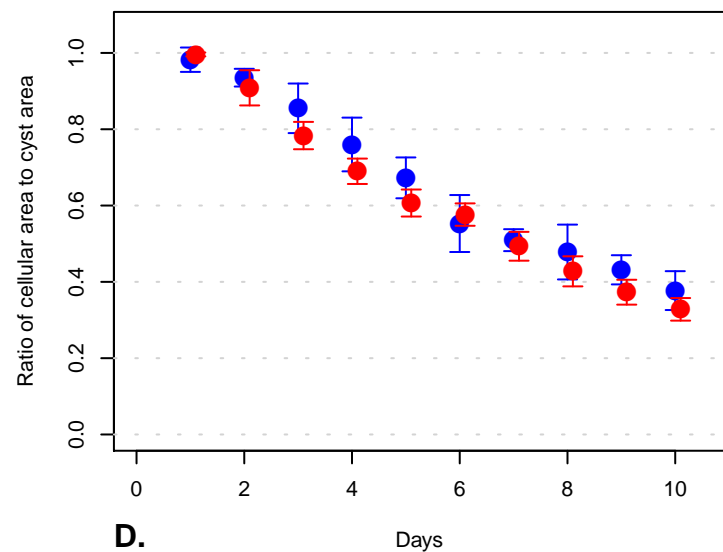
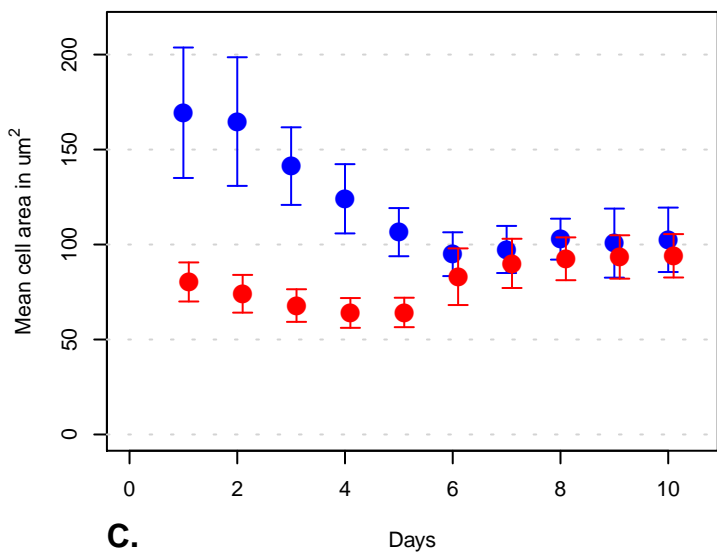
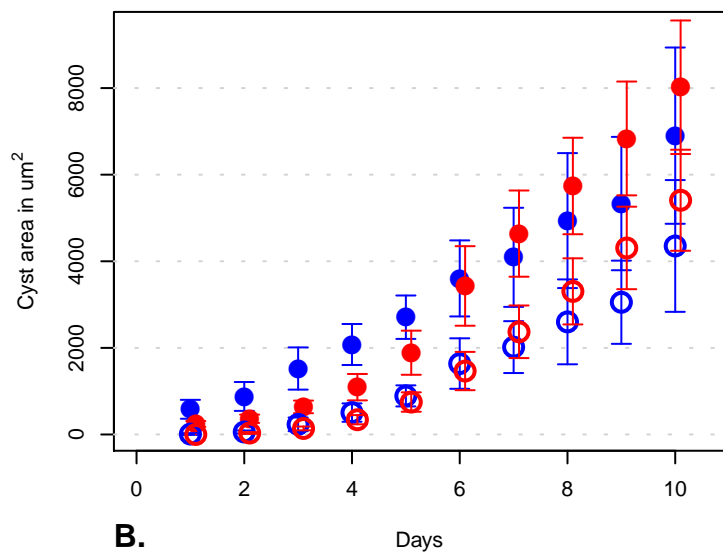
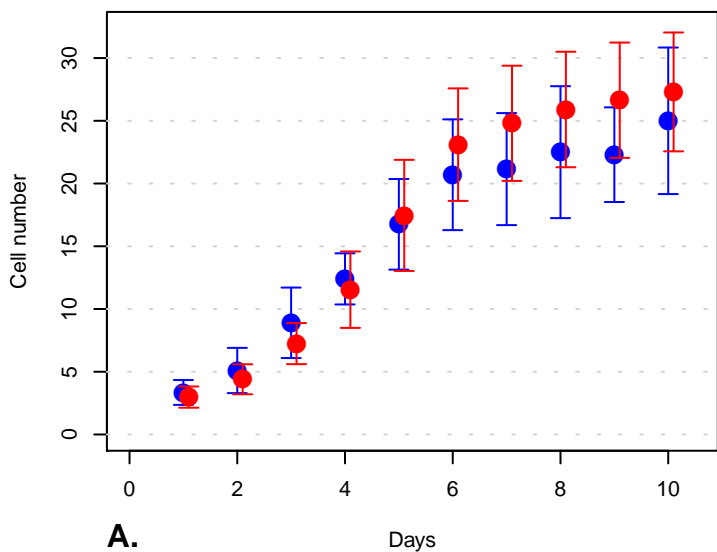
**Figure S11-5) TS ISMA with polarDelay = 130 and shiftDelay = 140**



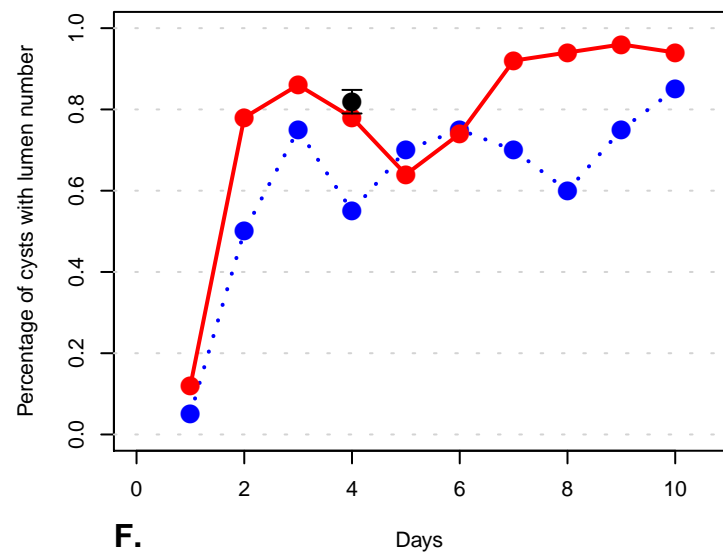
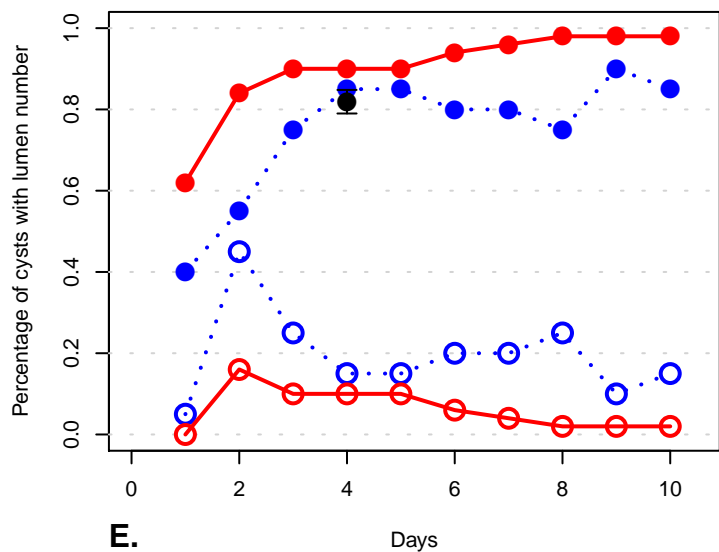
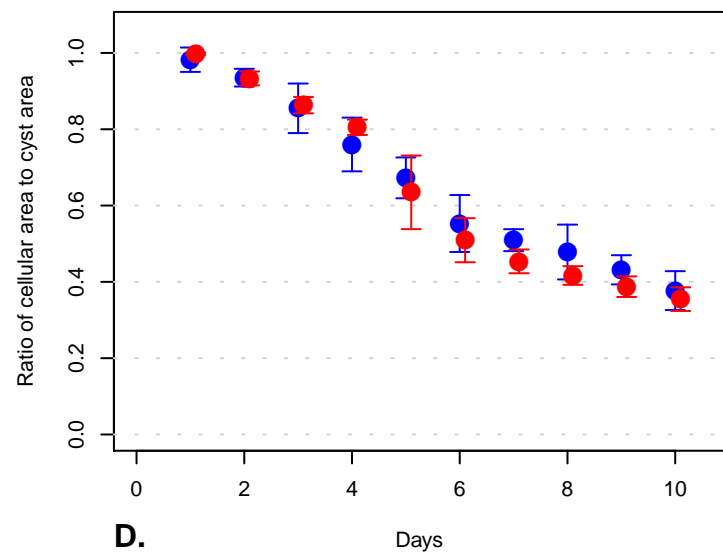
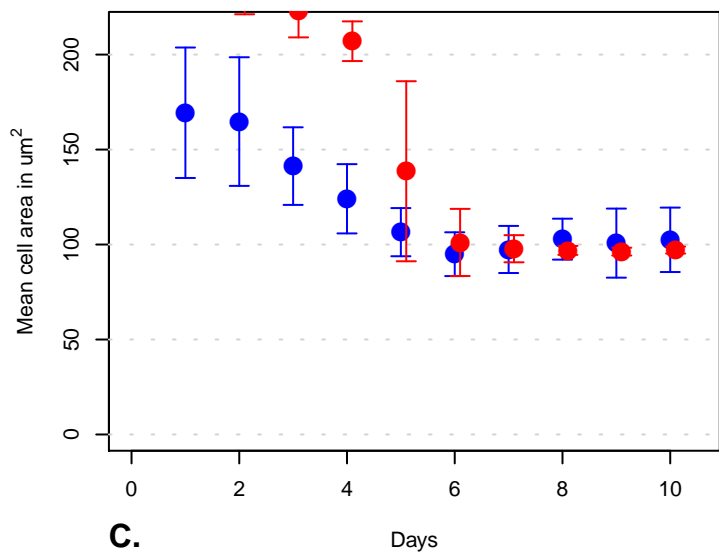
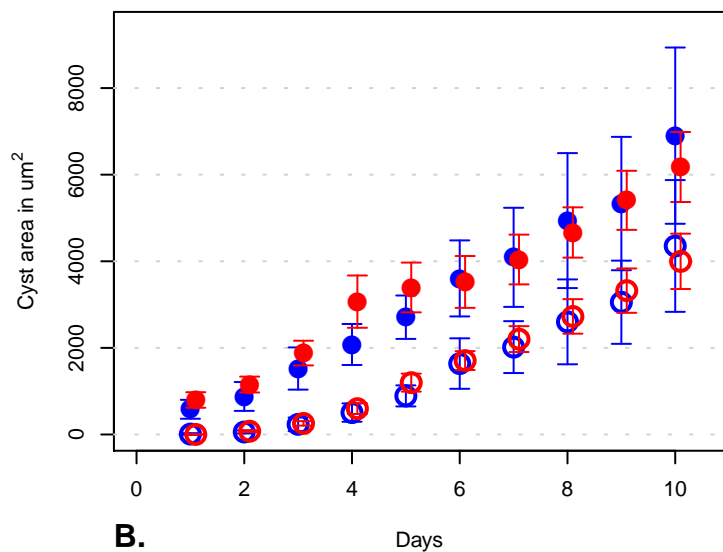
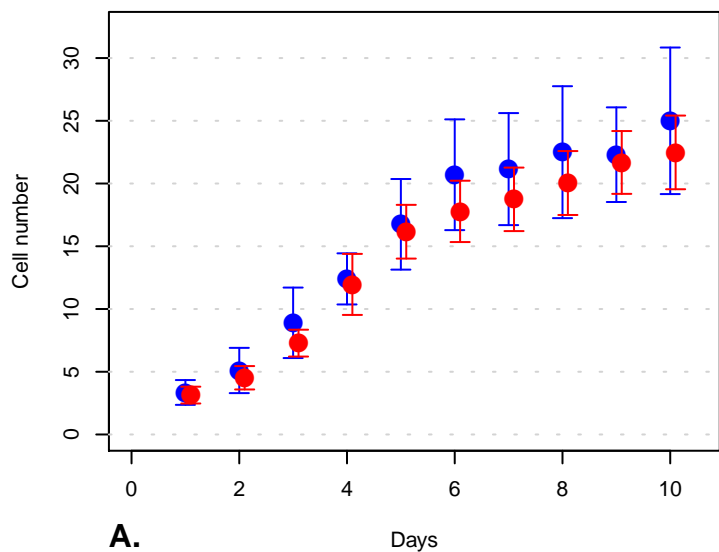
**Figure S11-6) Varied wedgeArea: w = 20**



**Figure S11-7) Varied wedgeArea: w = 40**

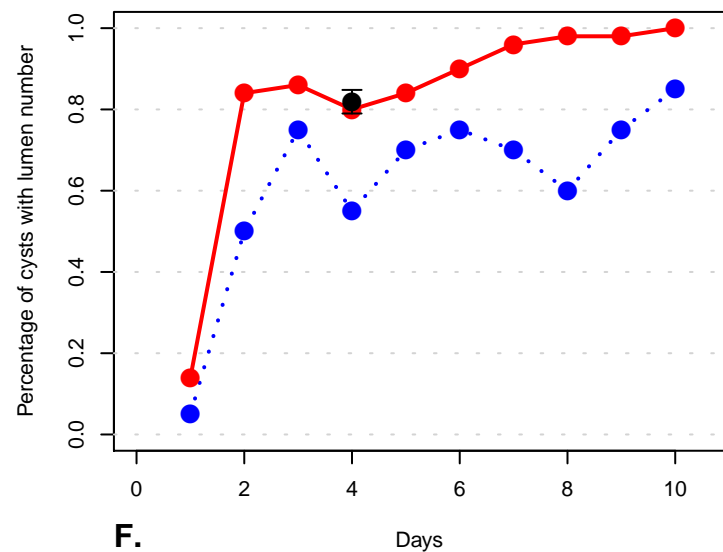
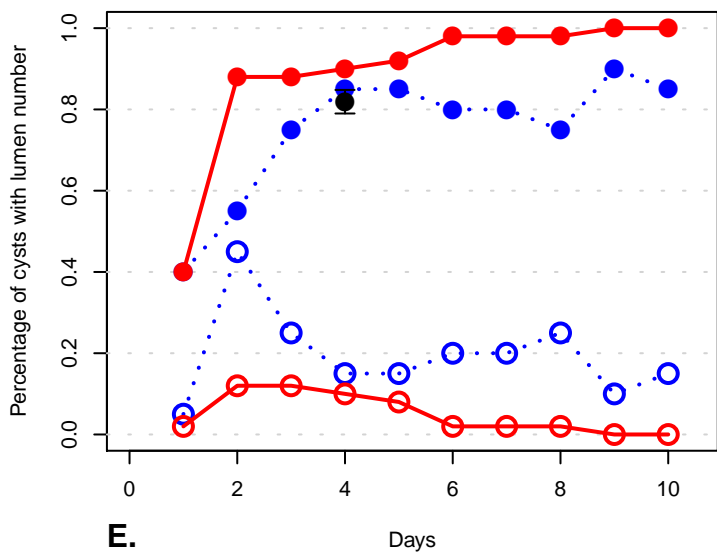
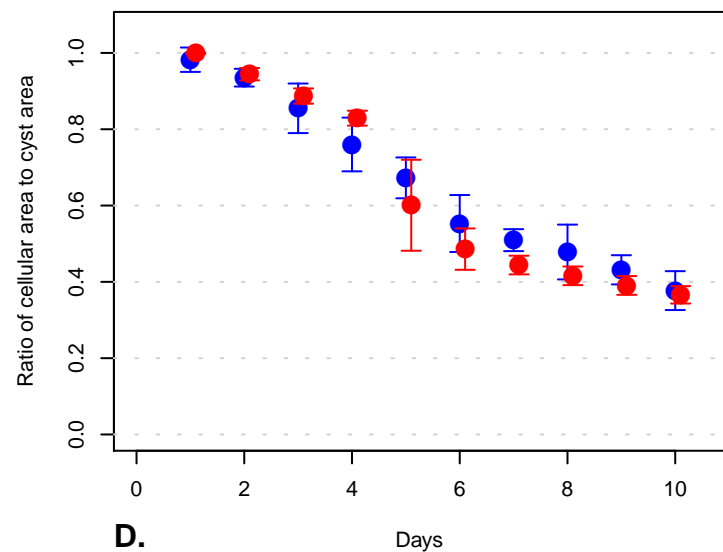
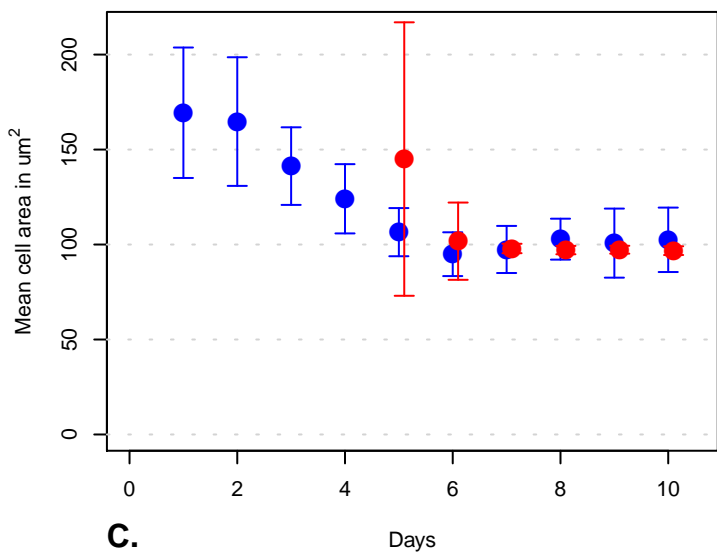
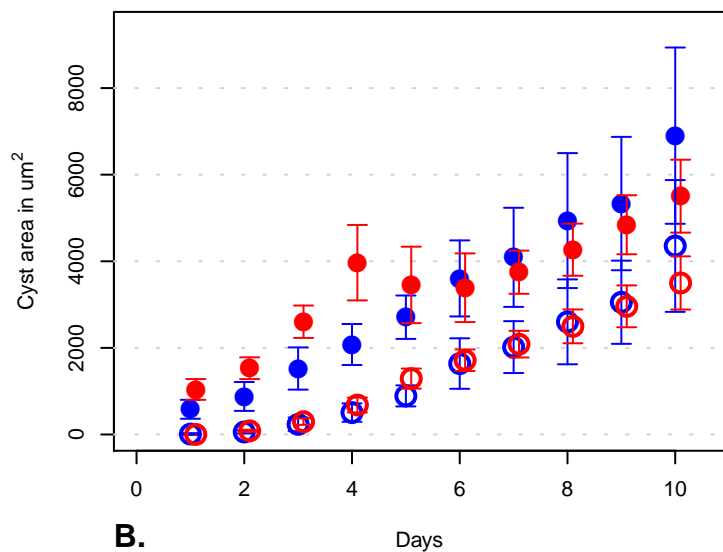
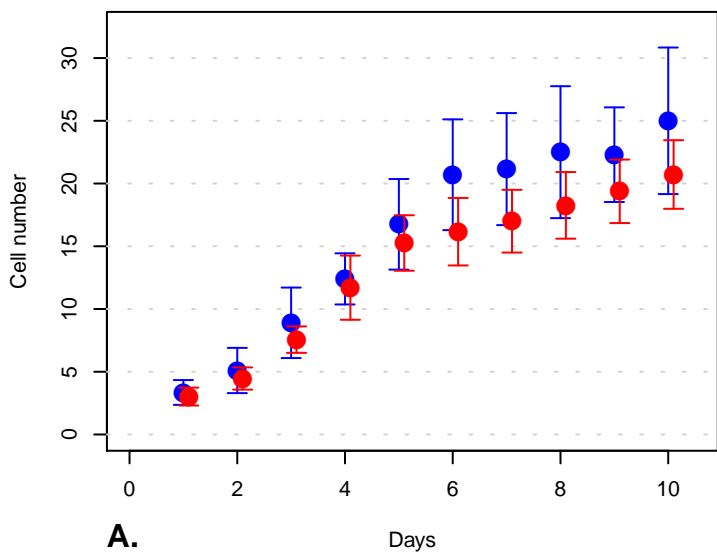


**Figure S11–8) Varied wedgeArea: w = 120**

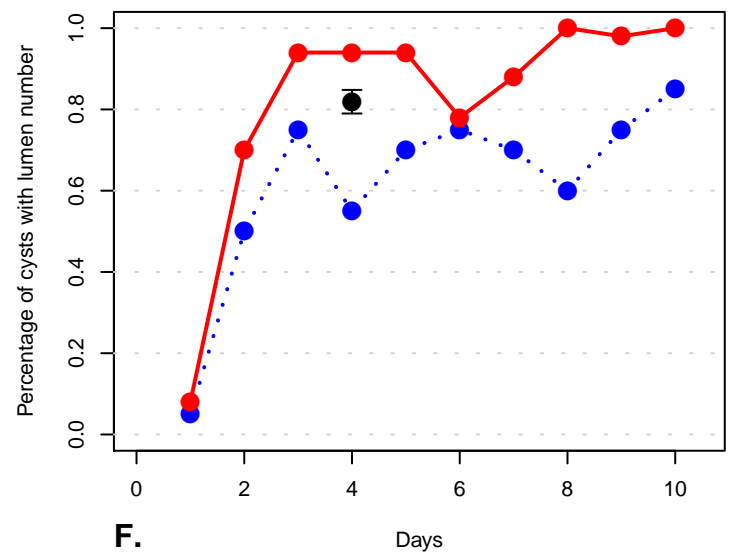
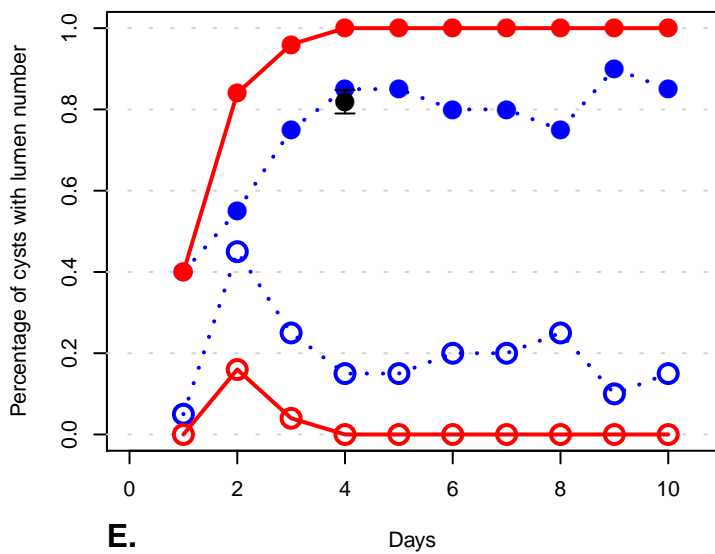
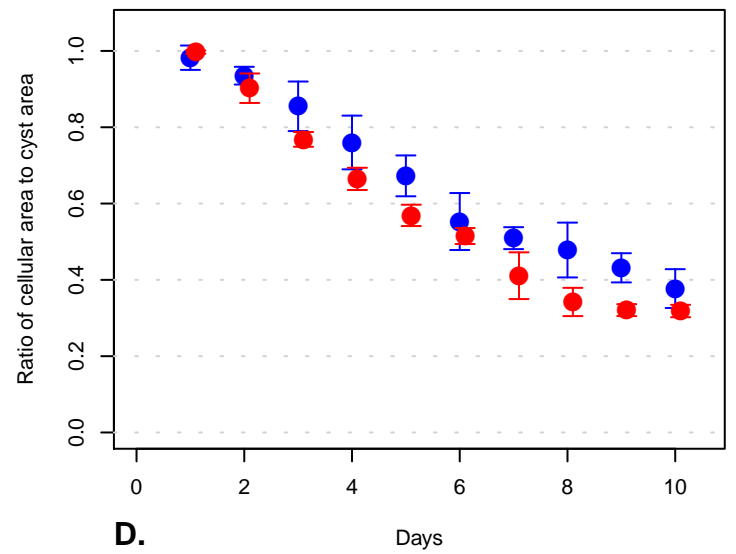
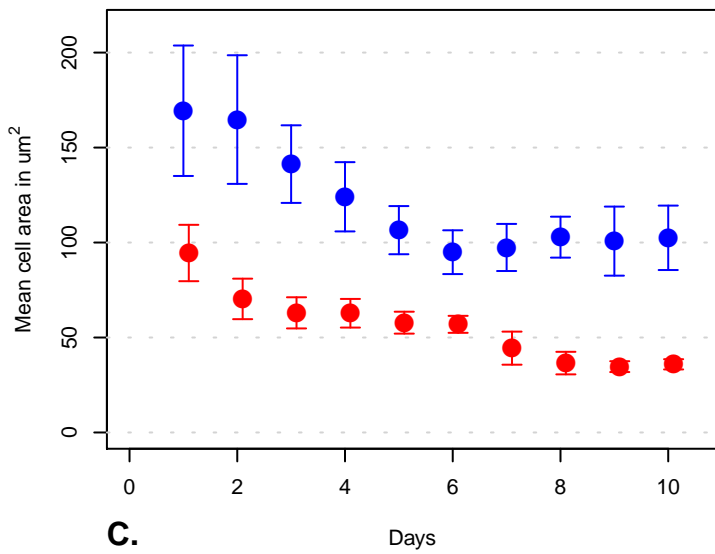
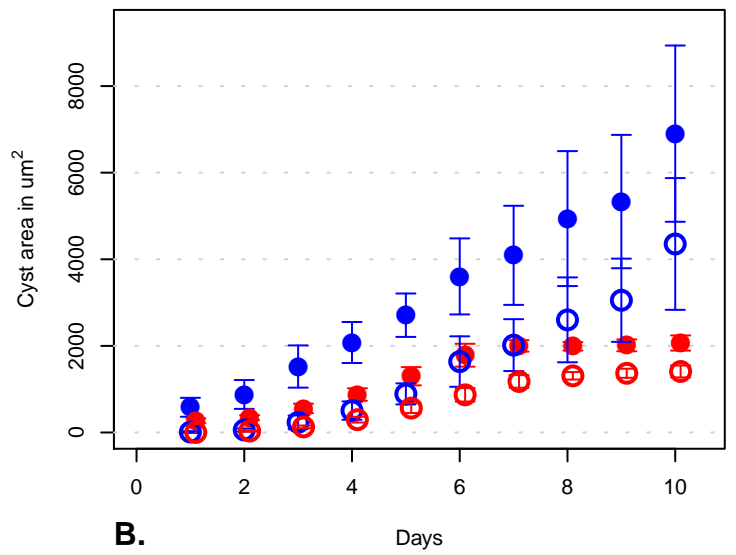
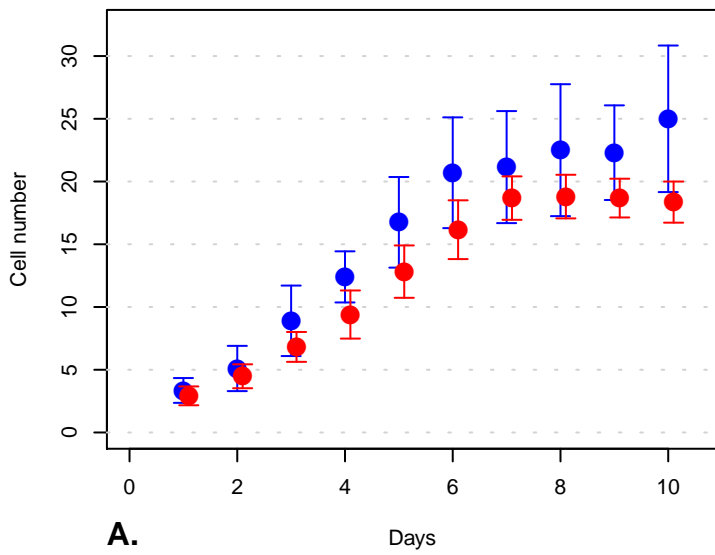




**Figure S11-9) Varied wedgeArea: w = 160**



**Figure S11-10) Varied lambdaArea: la = 0.5**



**Figure S11–11) Varied lambdaArea:  $\lambda_a = 2.5$**

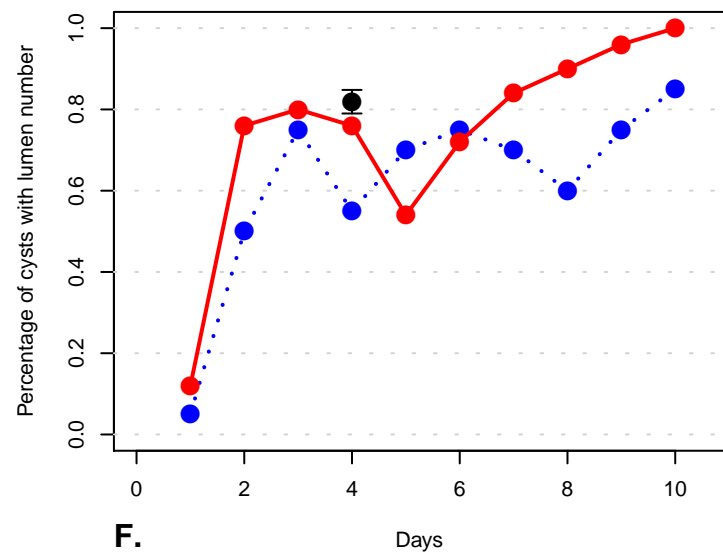
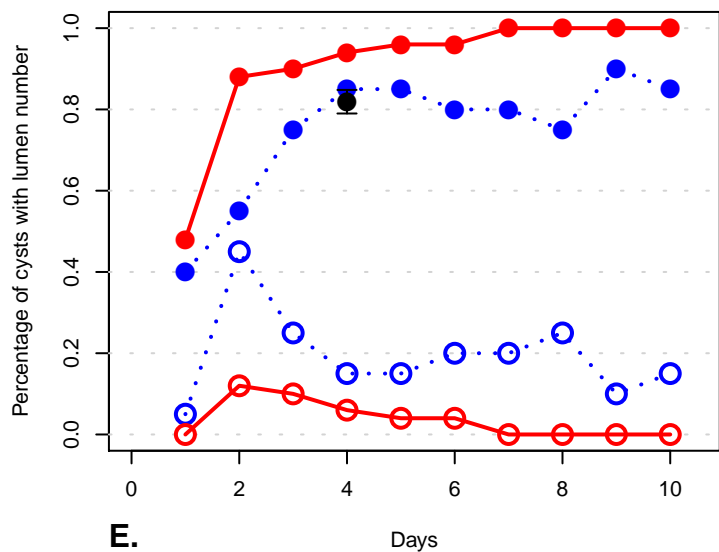
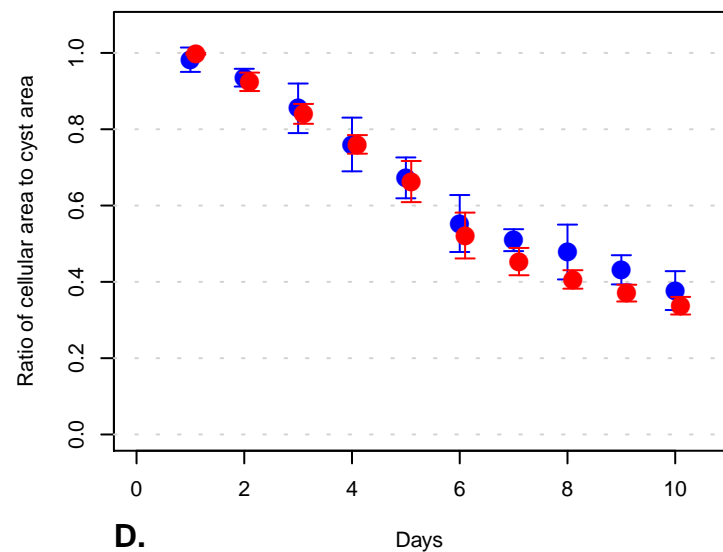
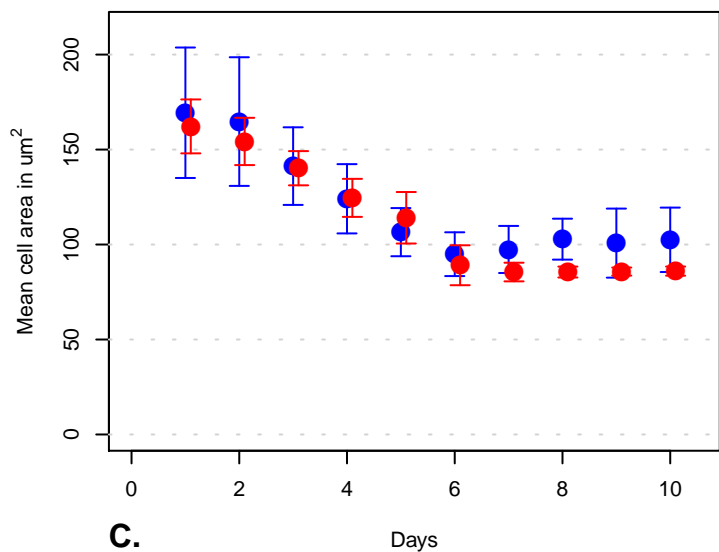
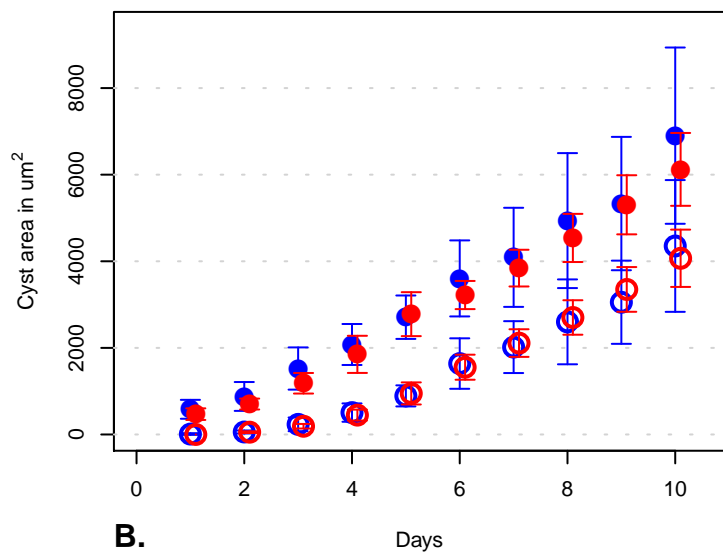
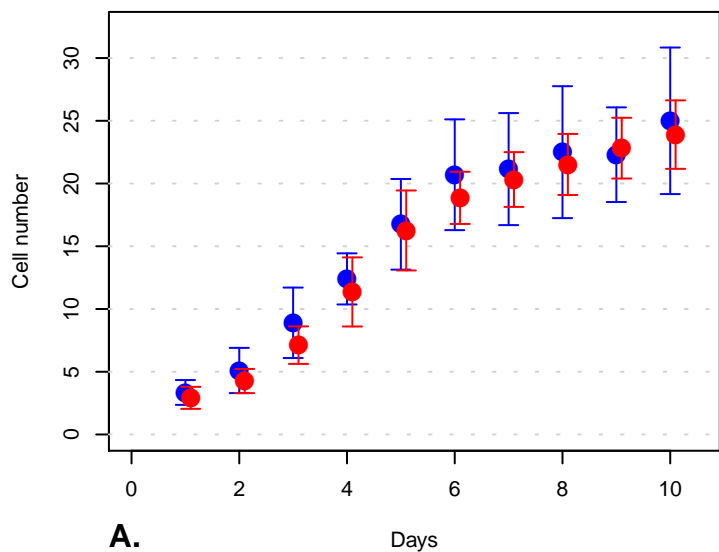
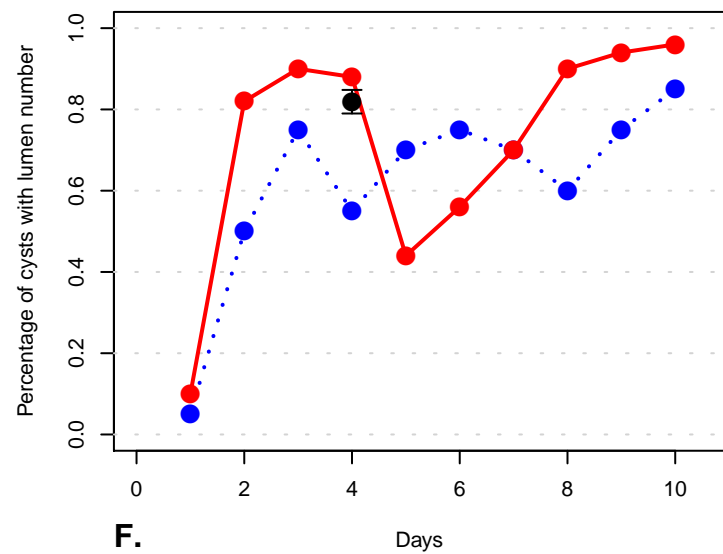
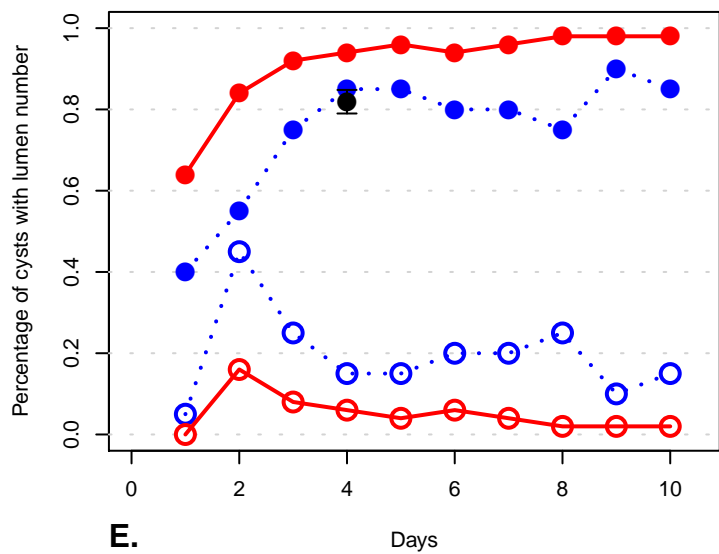
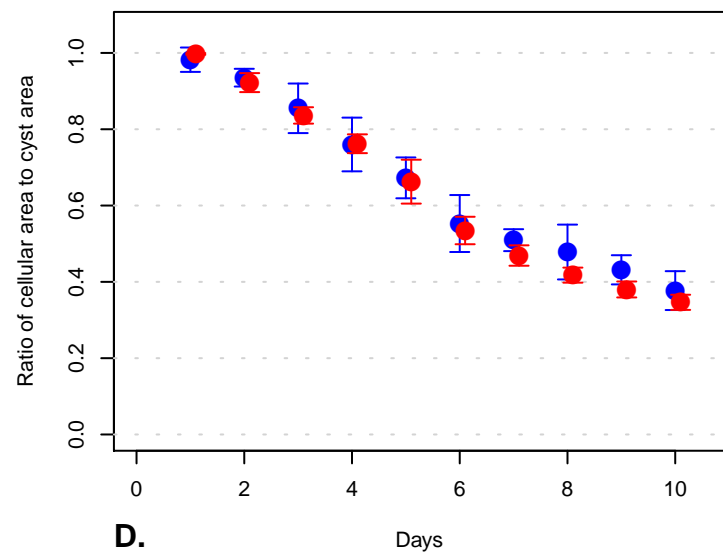
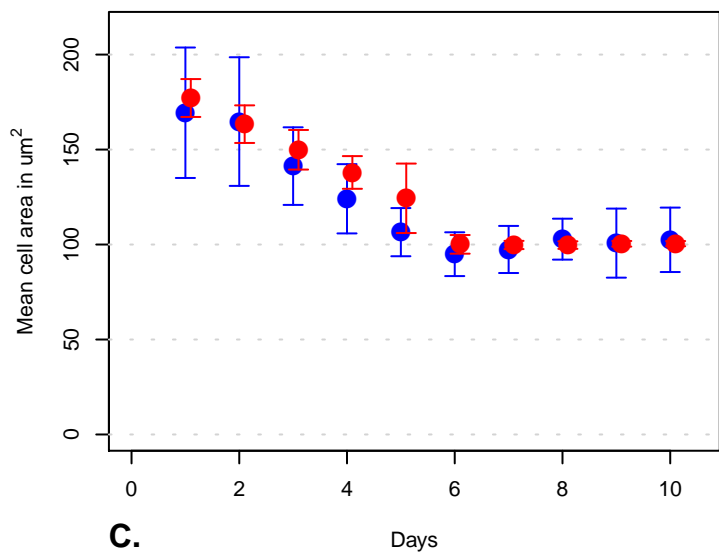
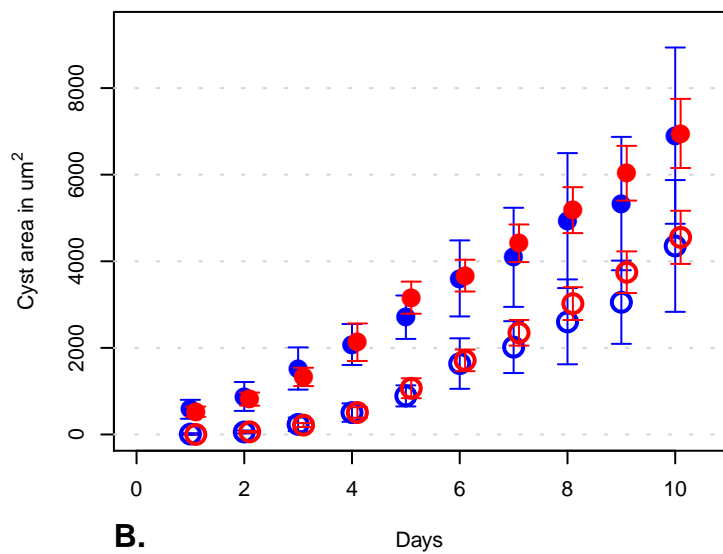
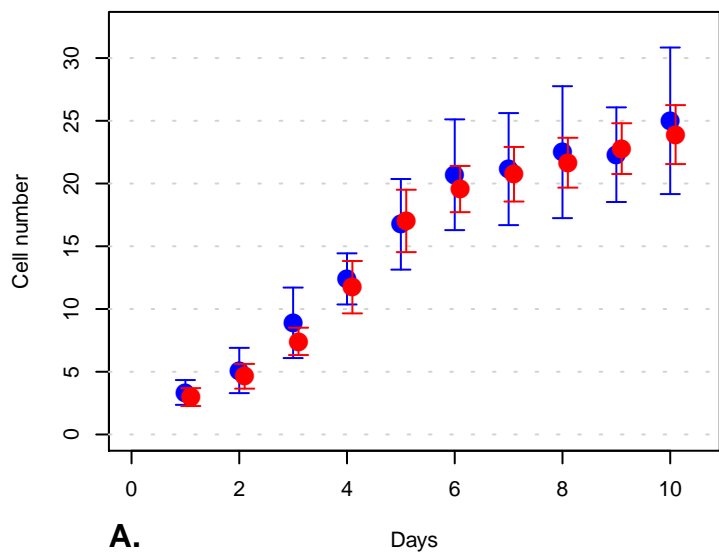
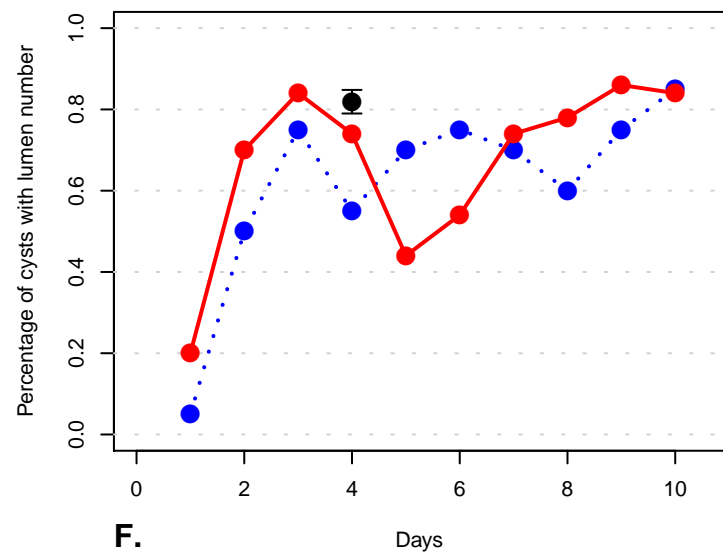
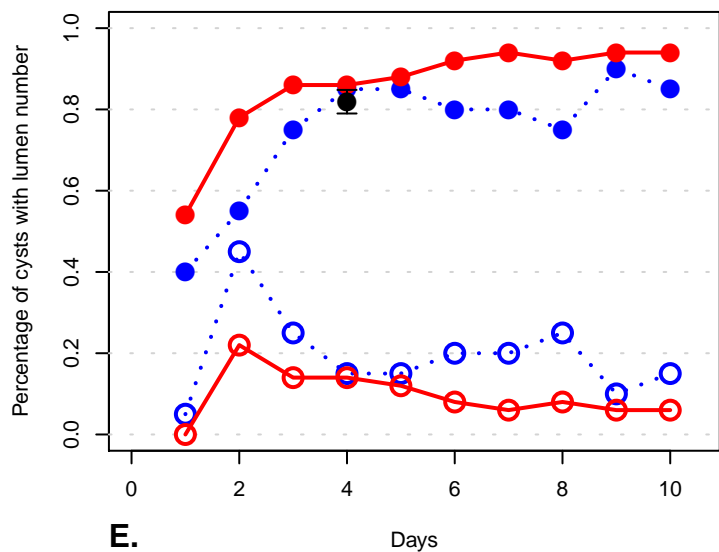
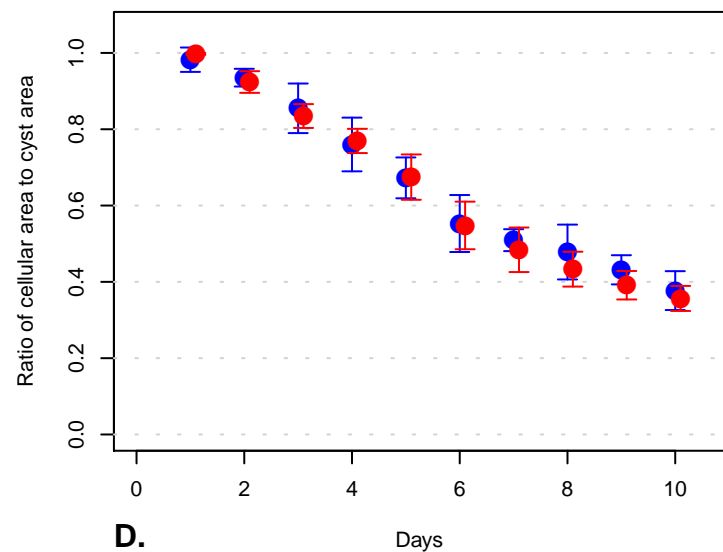
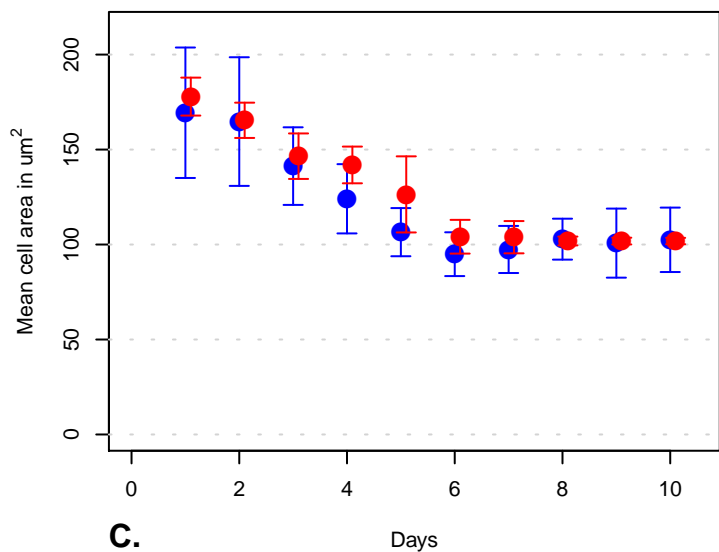
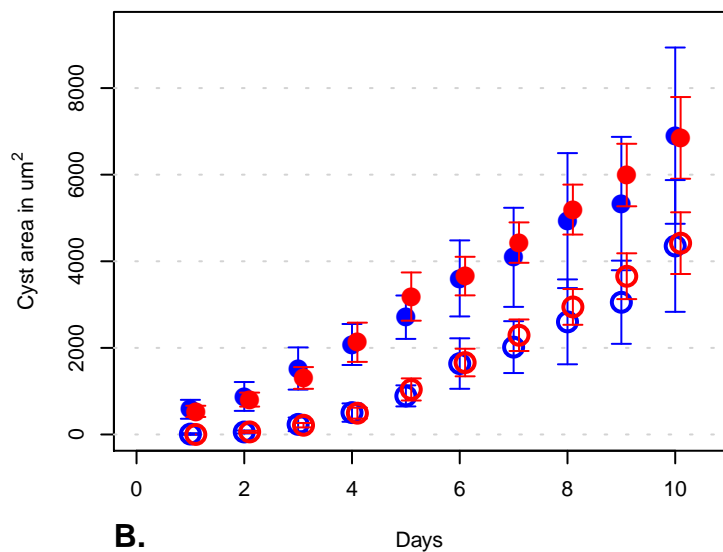
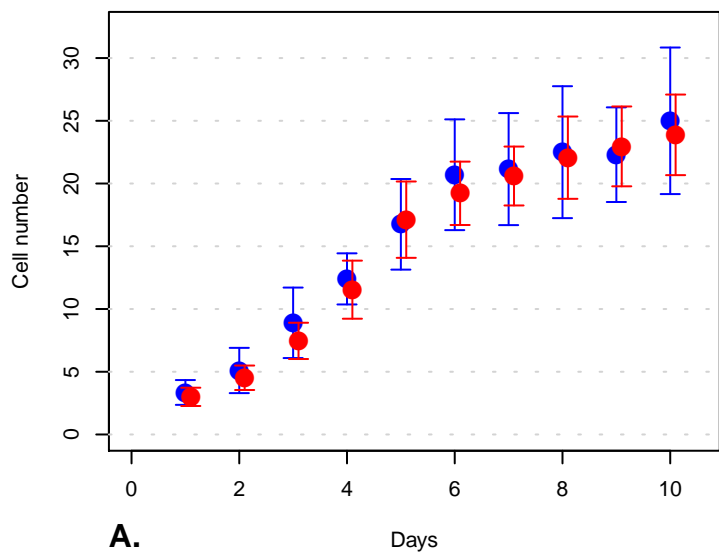


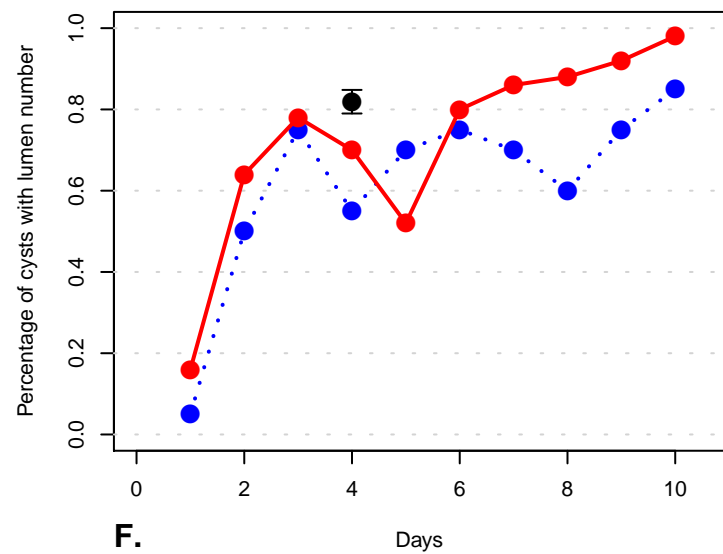
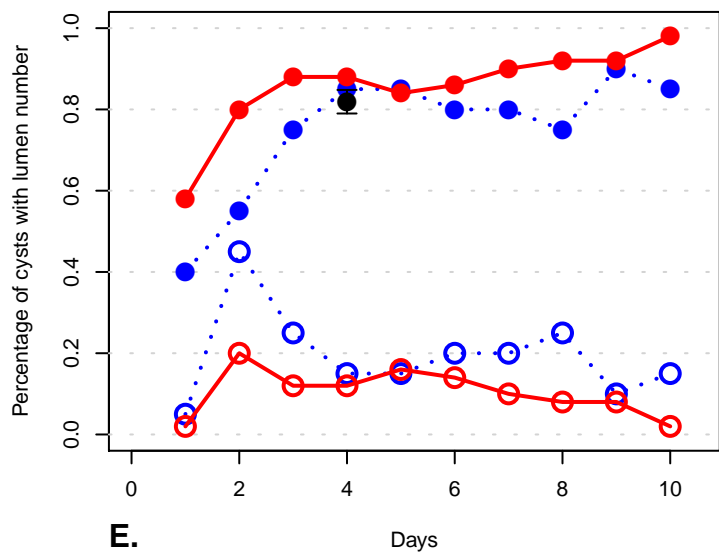
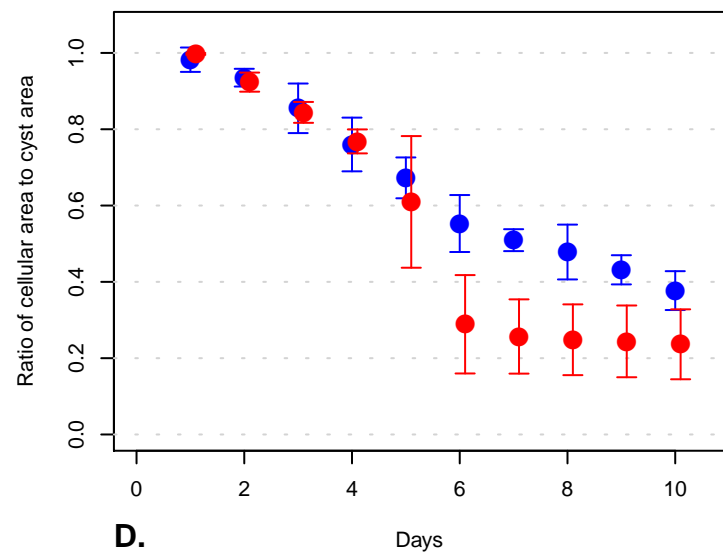
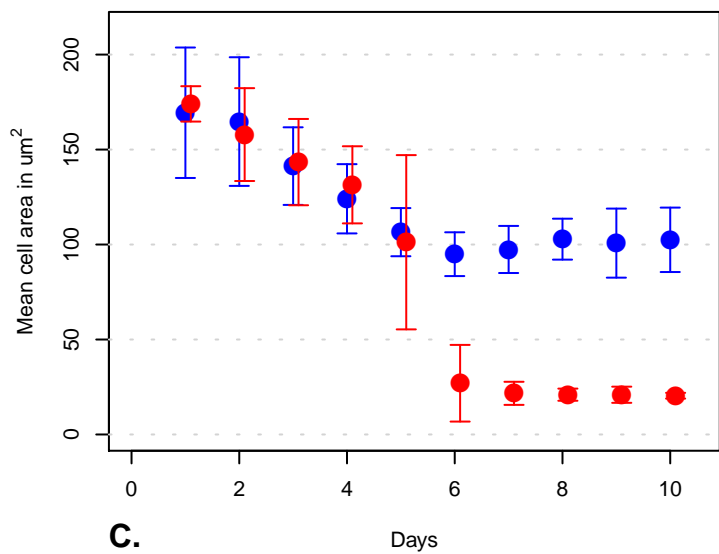
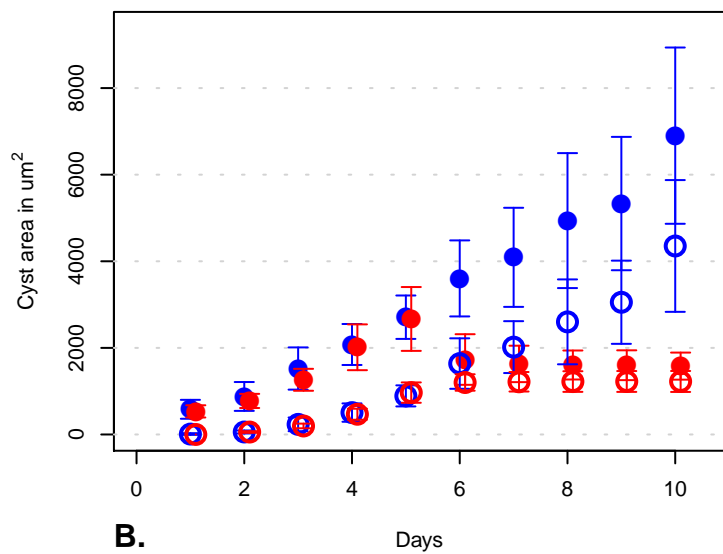
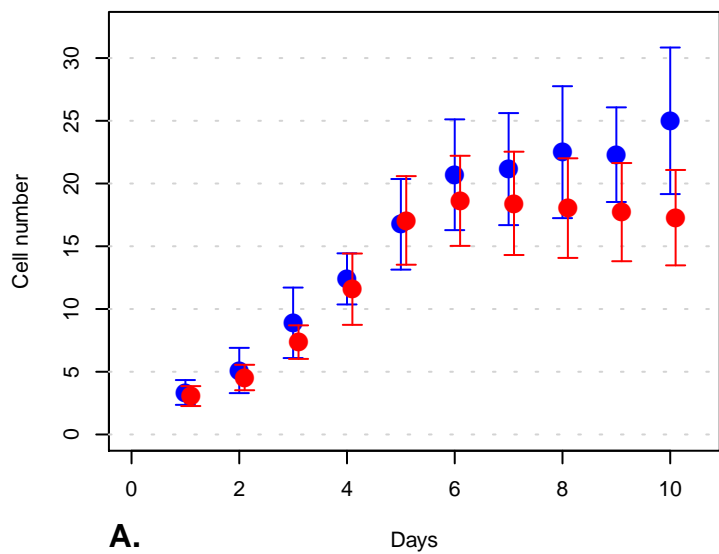
Figure S11–12) Varied lambdaArea: la = 7.5



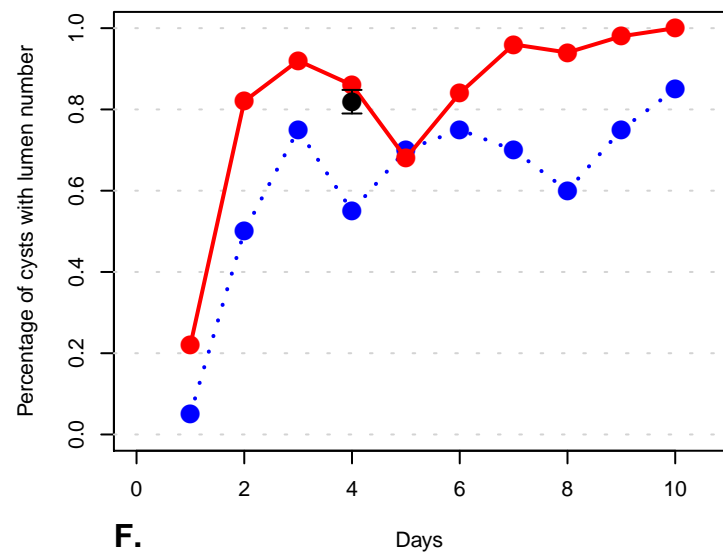
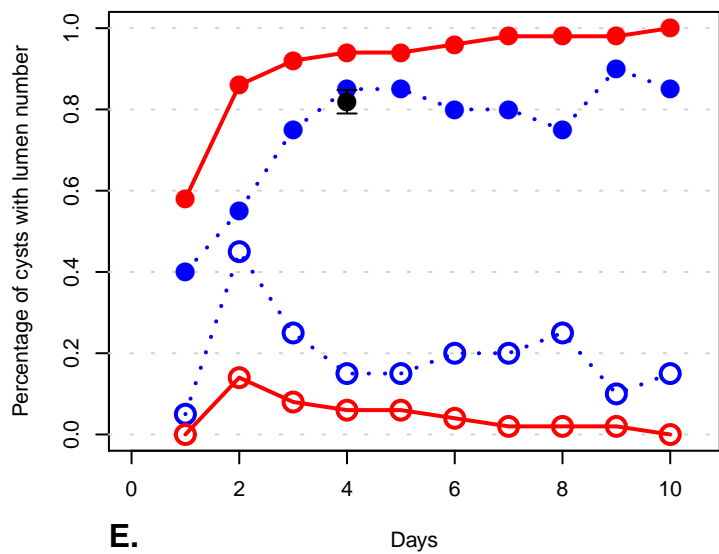
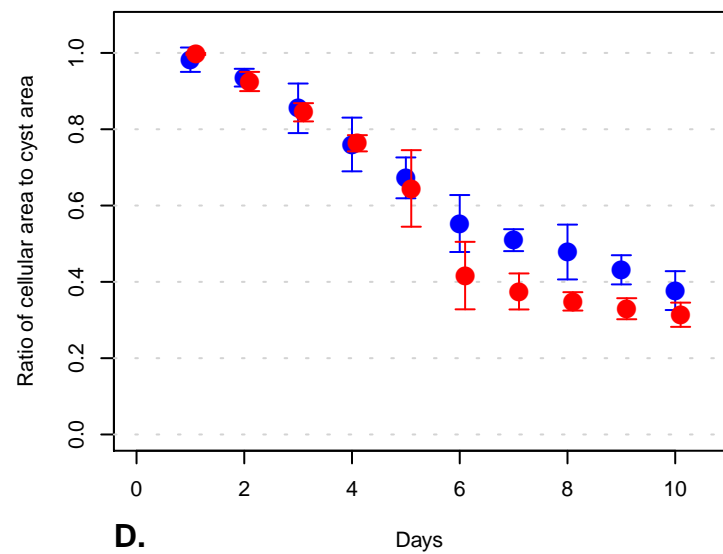
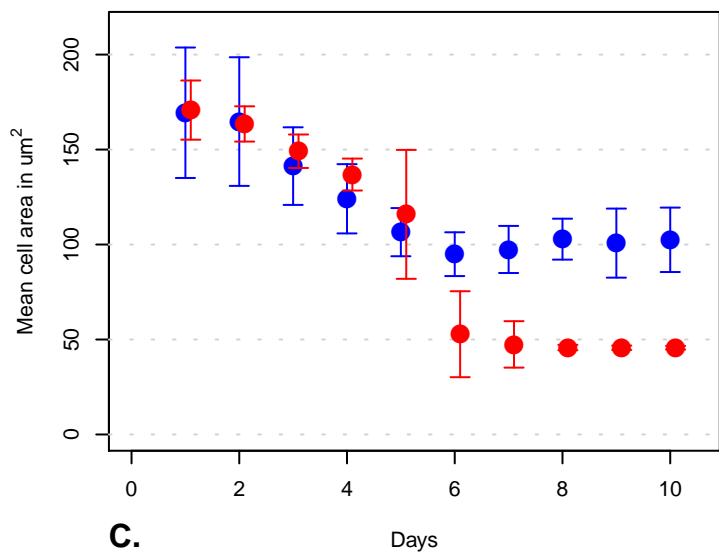
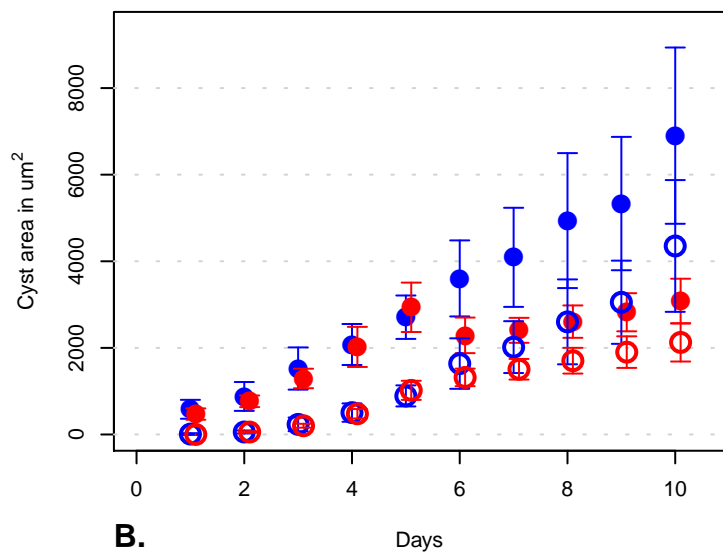
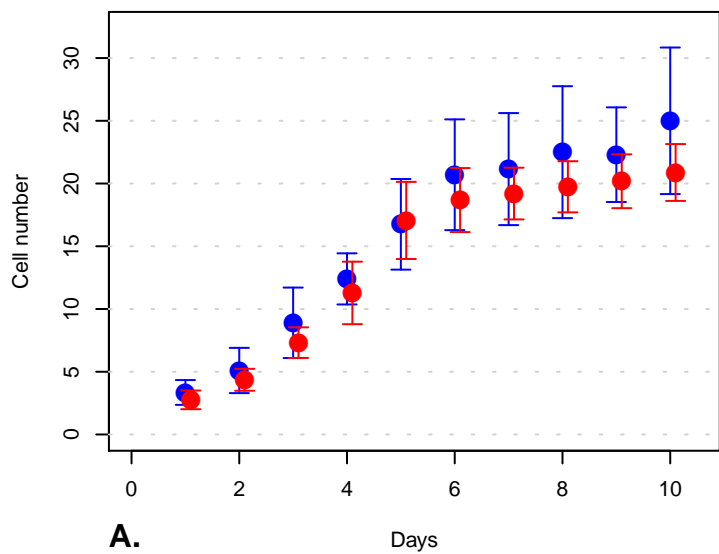
**Figure S11–13) Varied lambdaArea:  $\lambda_a = 10$**



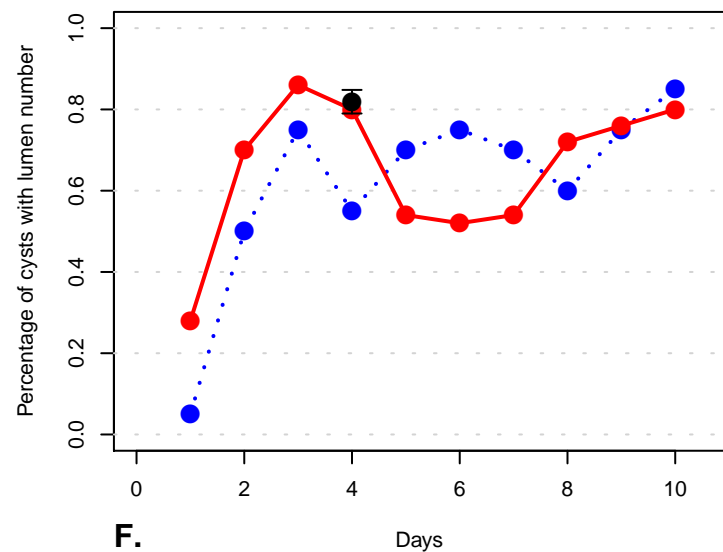
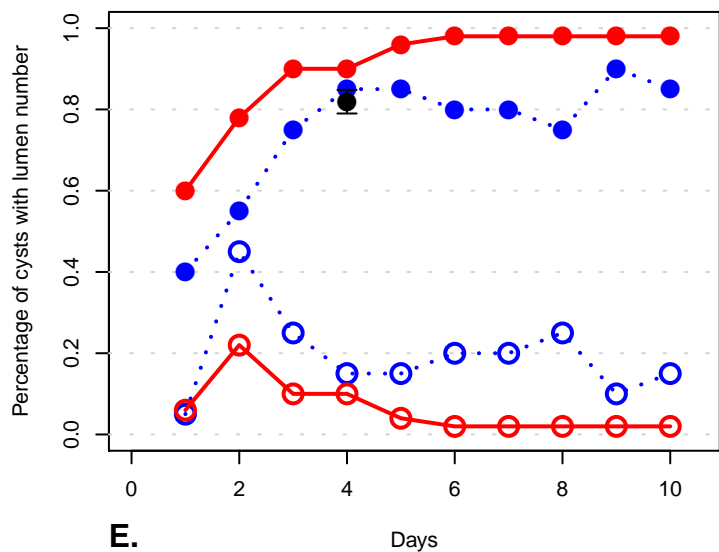
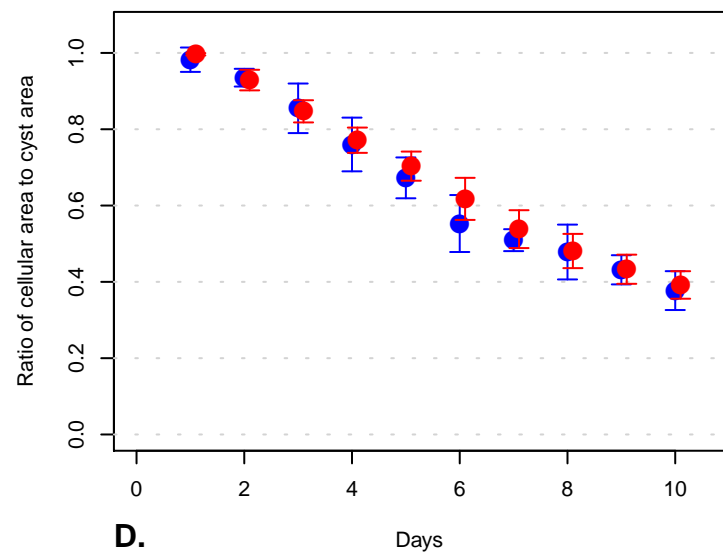
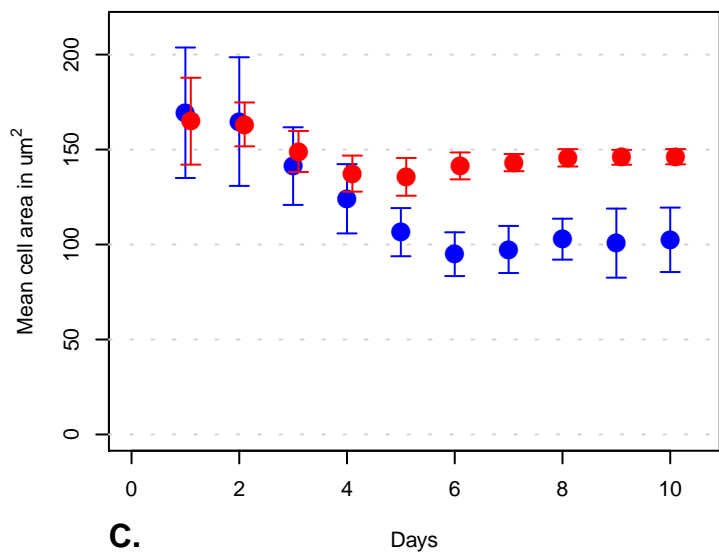
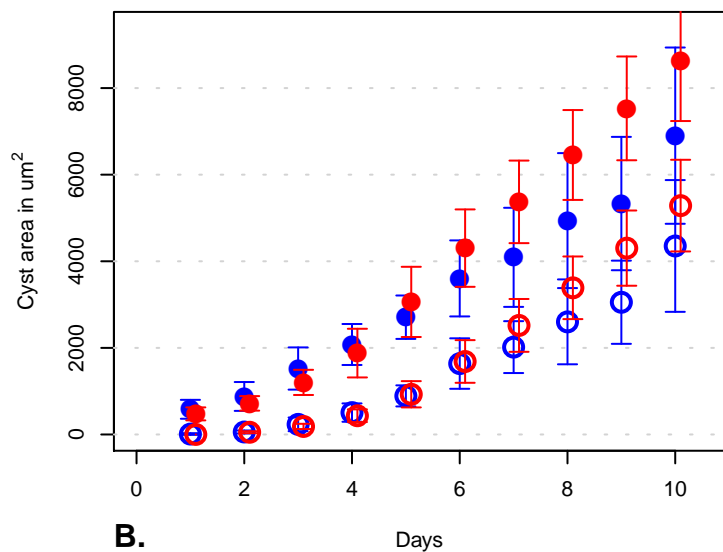
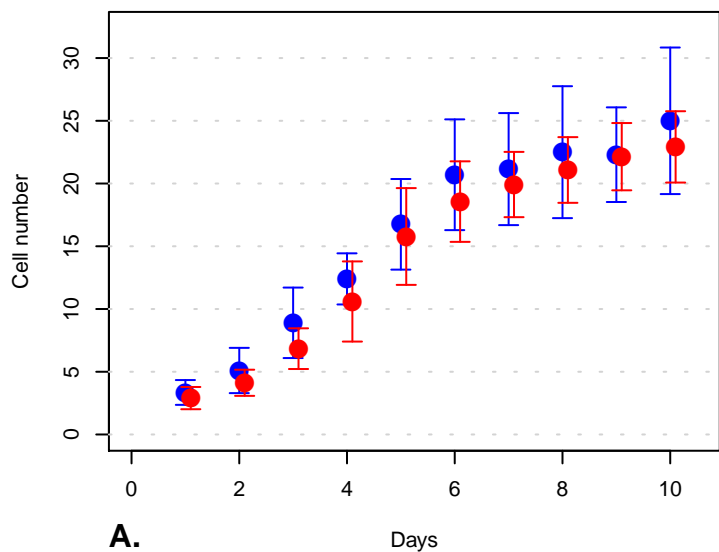
**Figure S11–14) Varied stableTargetArea: sta = 12**



**Figure S11–15) Varied stableTargetArea: sta = 24**



**Figure S11-16) Varied stableTargetArea: sta = 72**





**Figure S11-17) Varied stableTargetArea sta = 96**

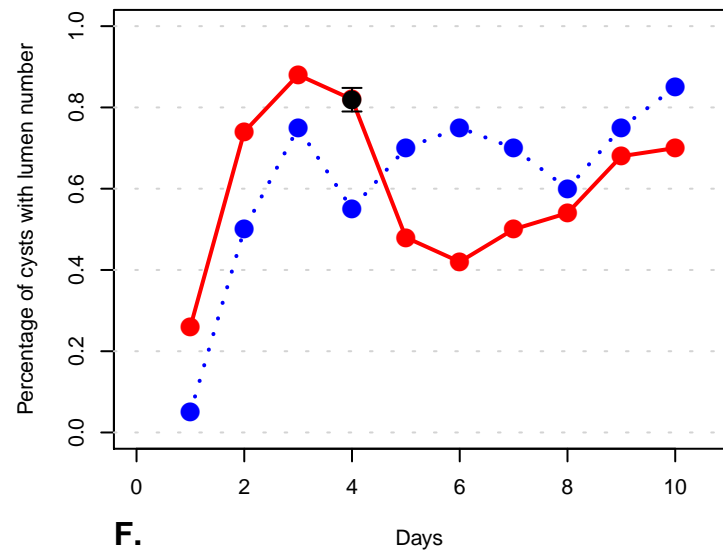
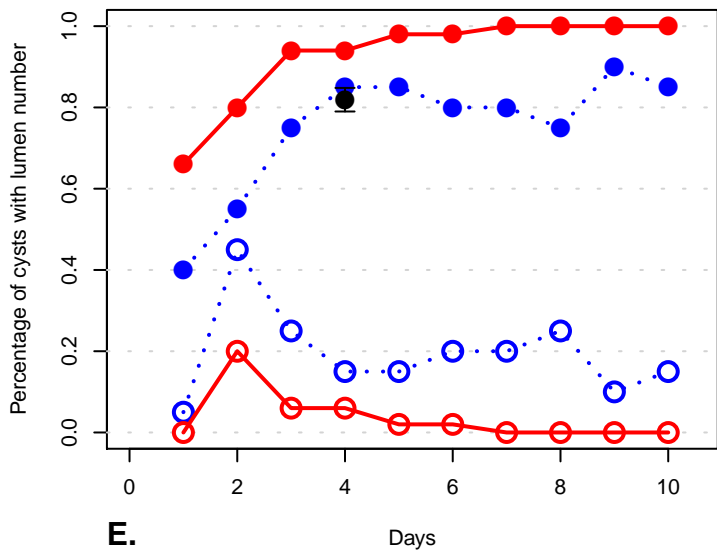
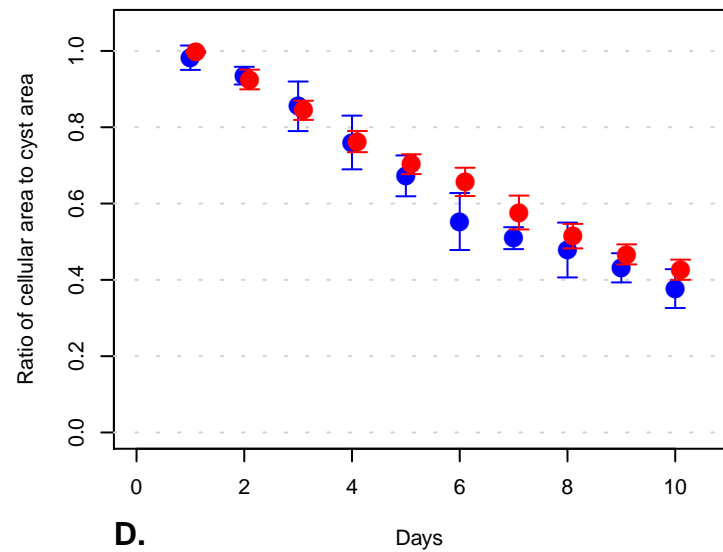
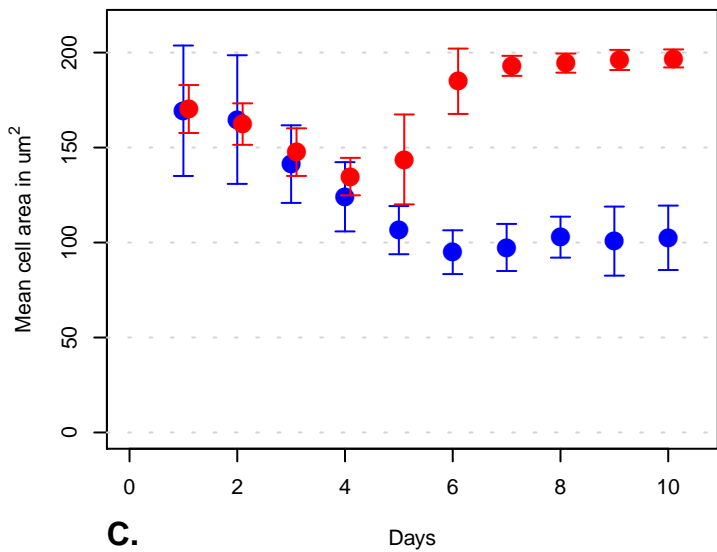
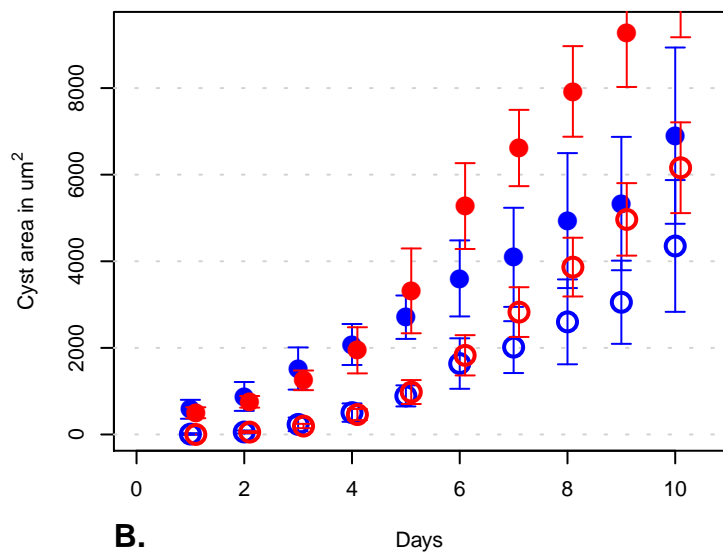
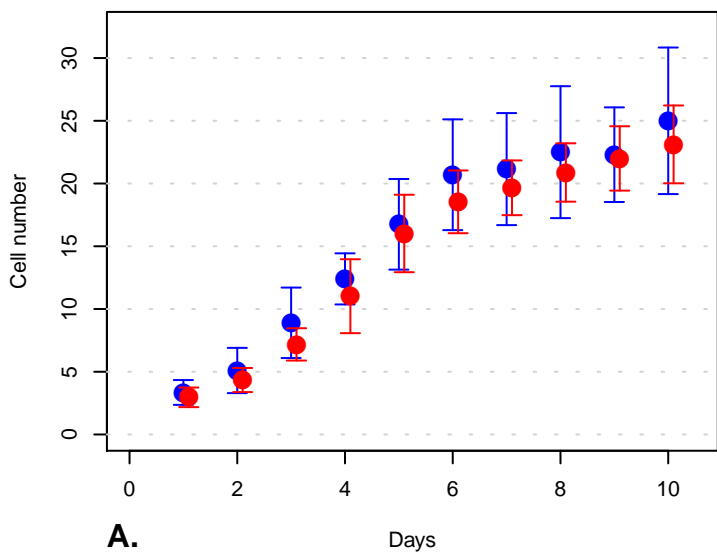
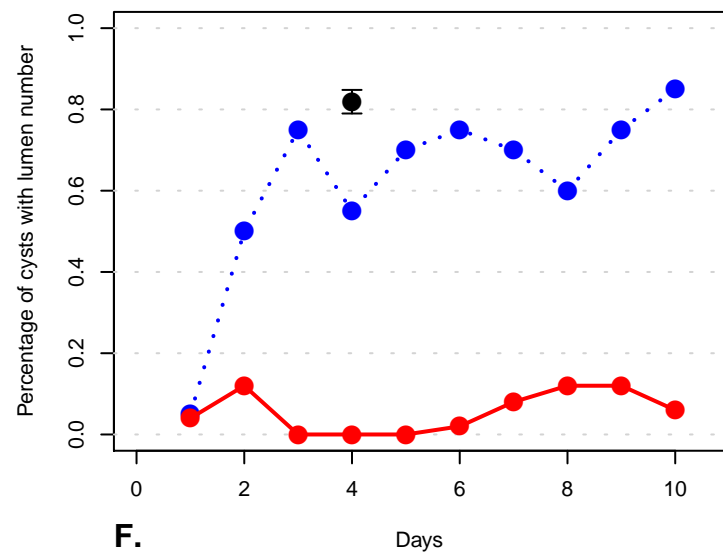
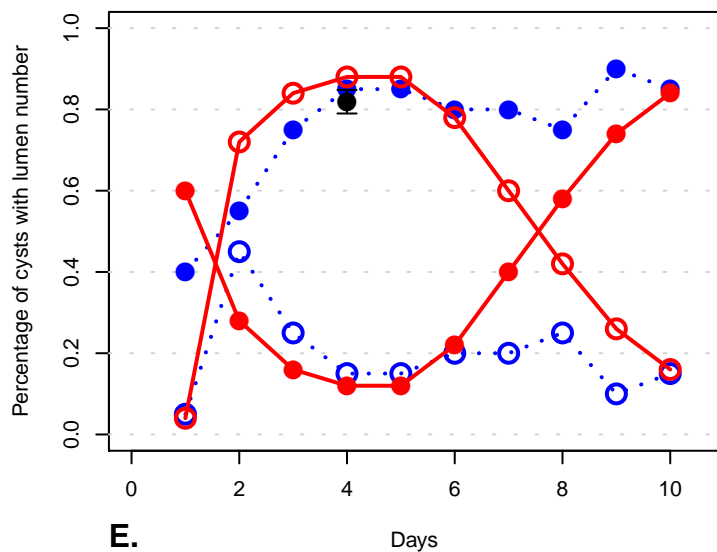
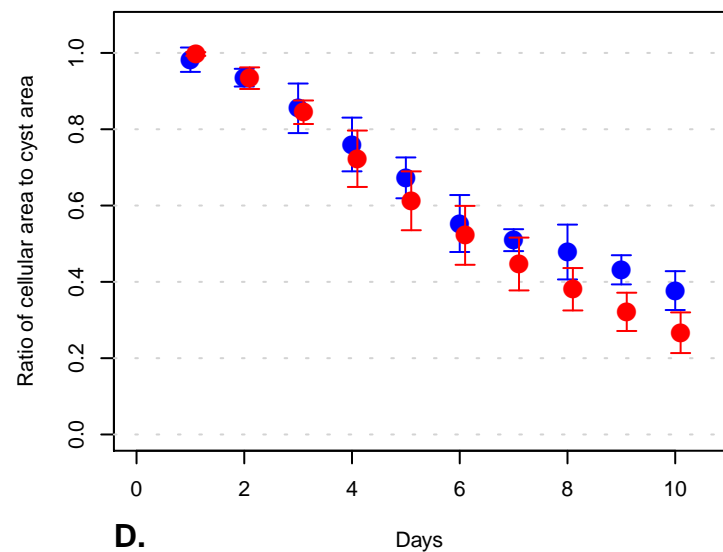
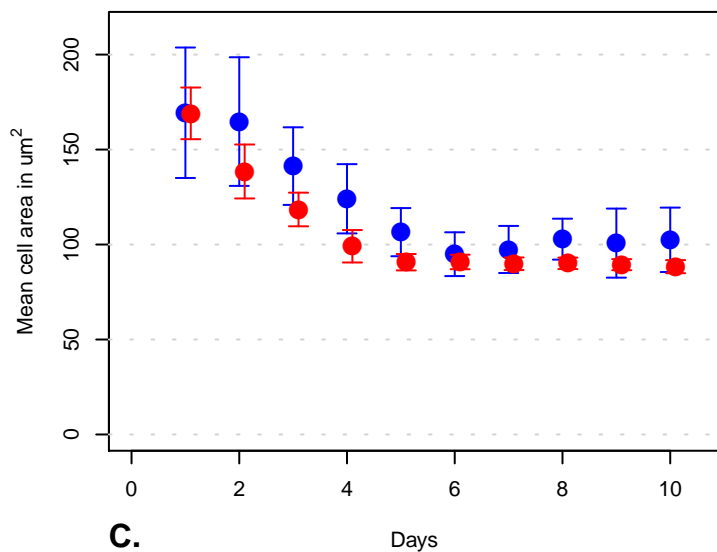
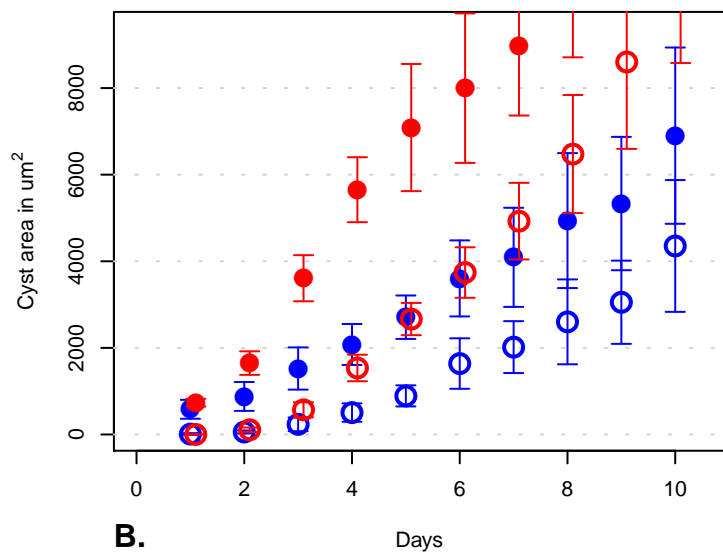
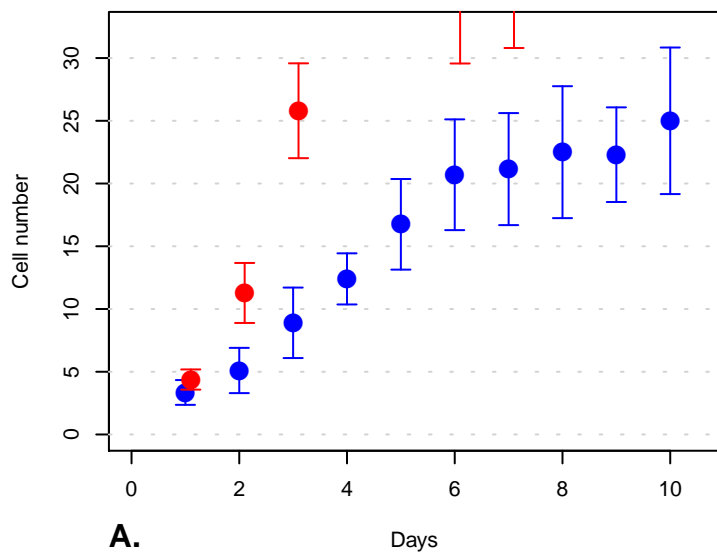
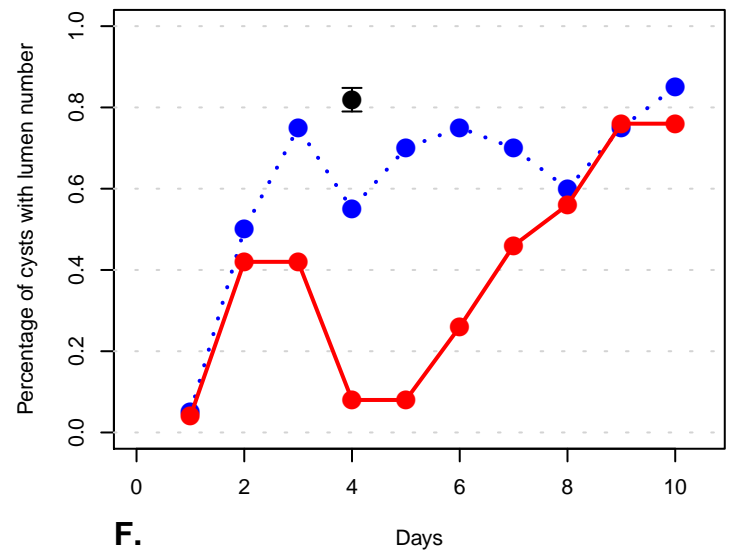
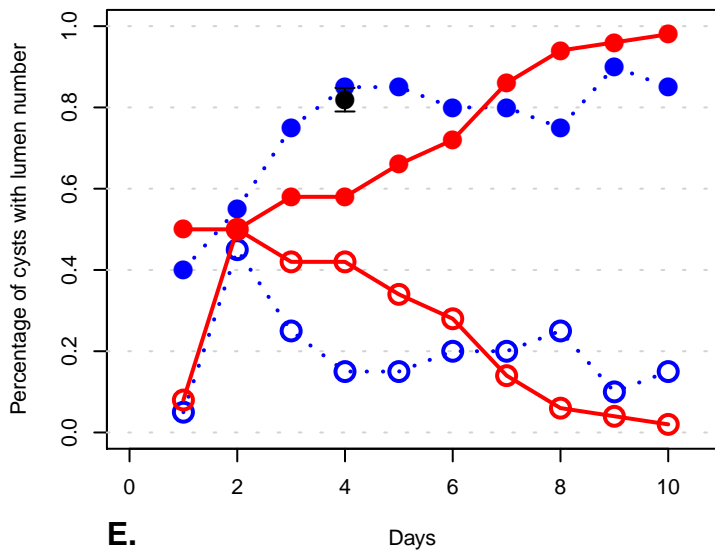
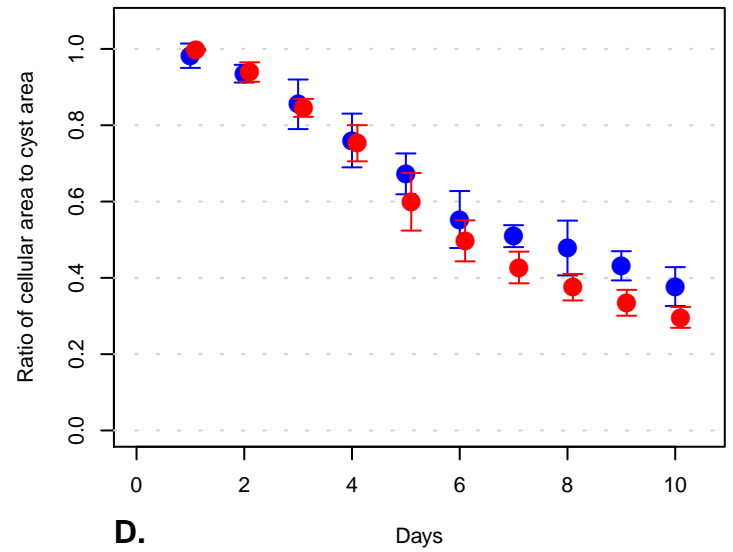
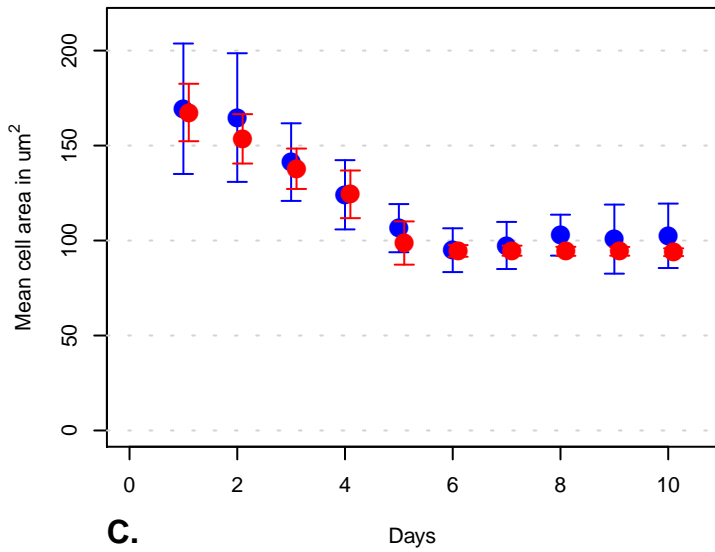
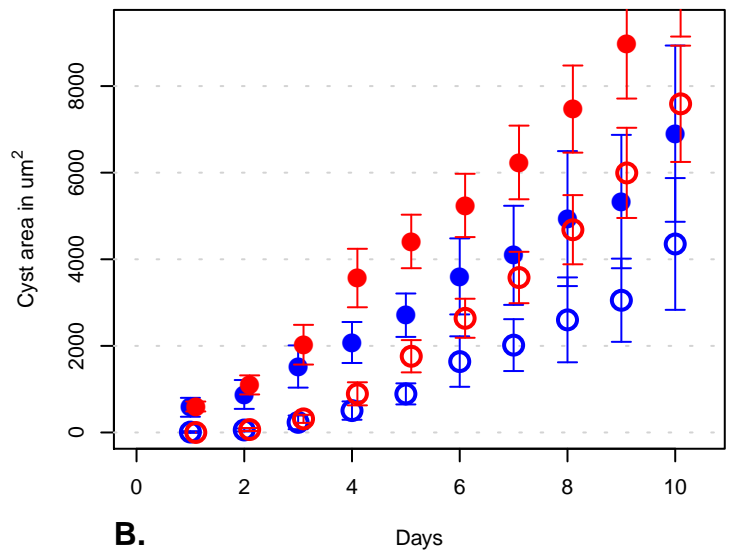
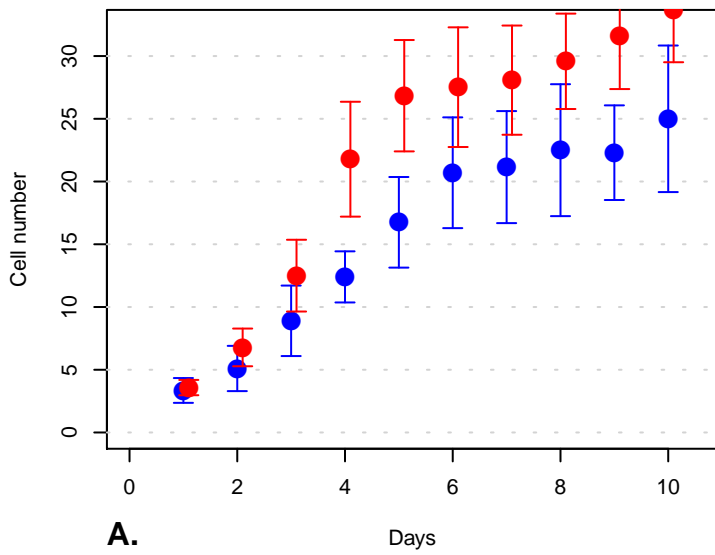


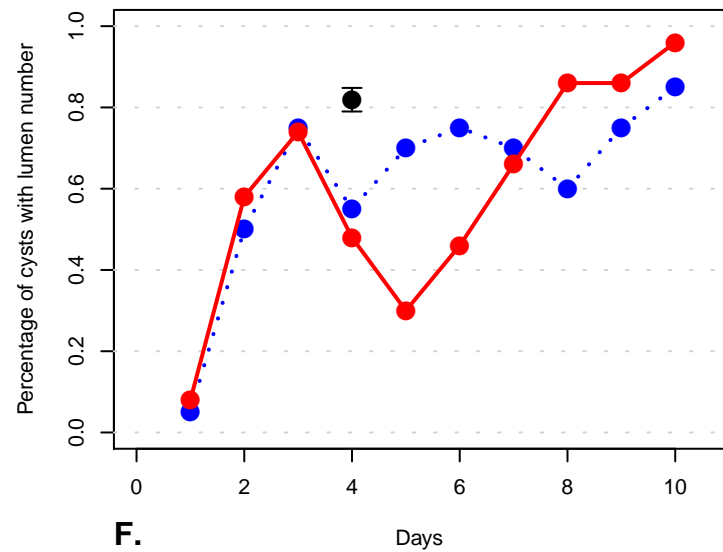
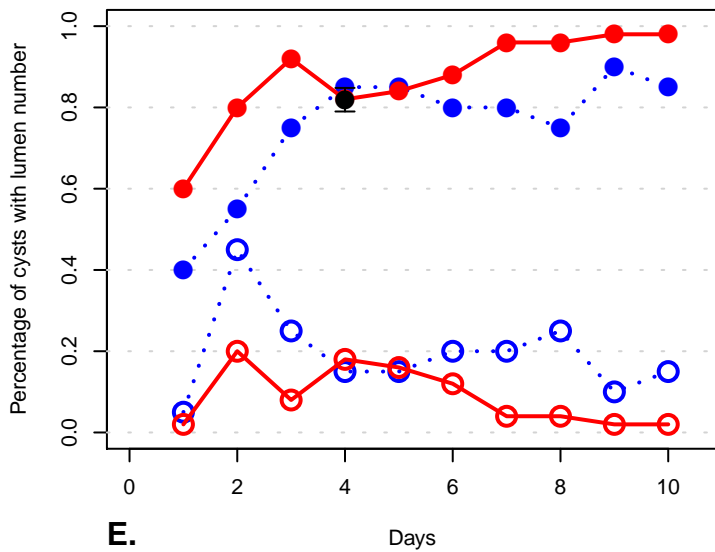
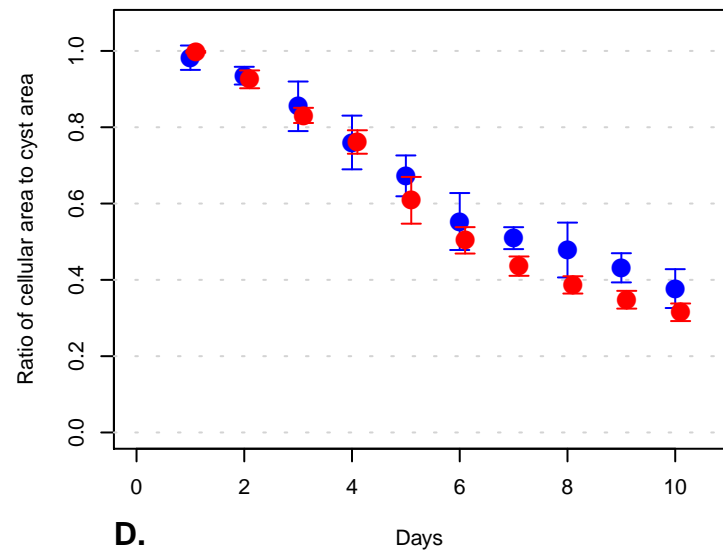
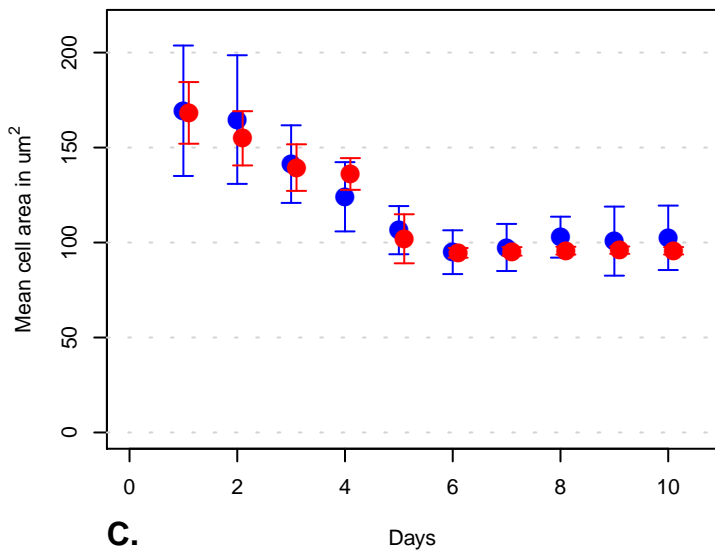
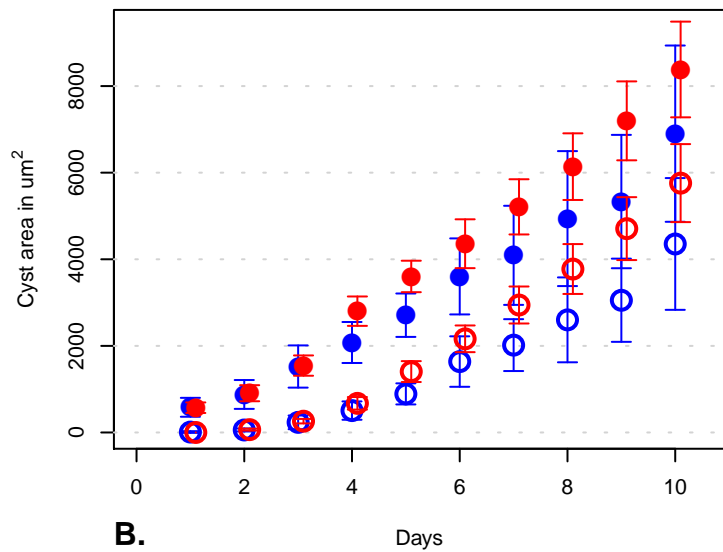
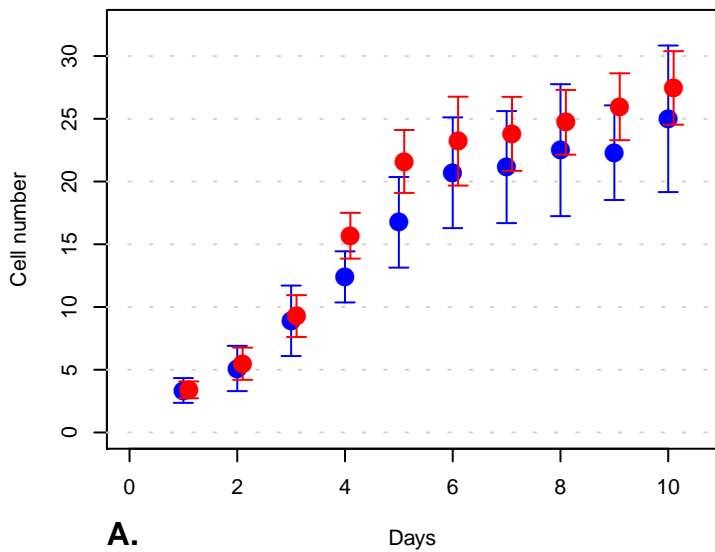
Figure S11-18) Varied cellCycle: cc = 35



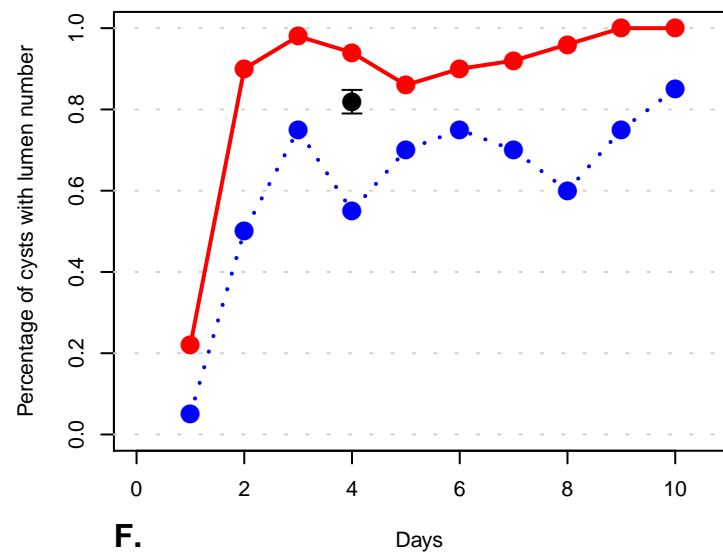
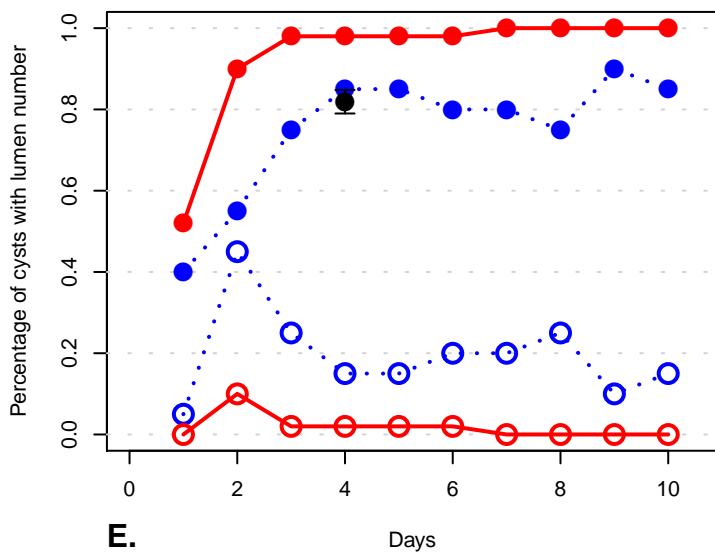
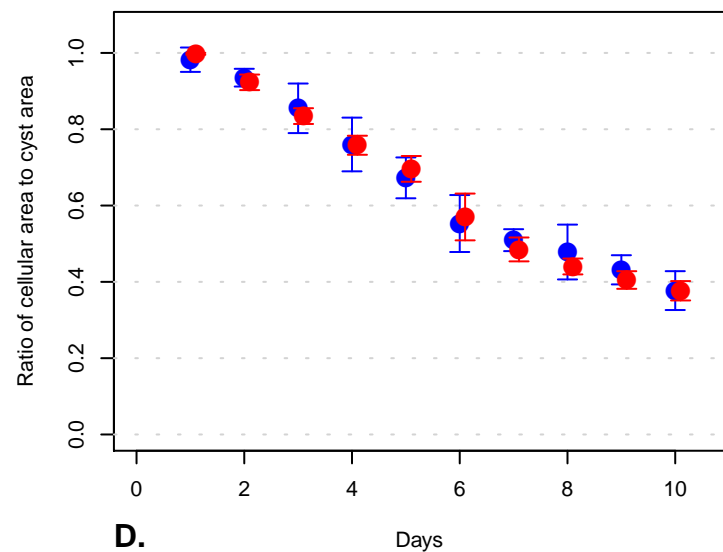
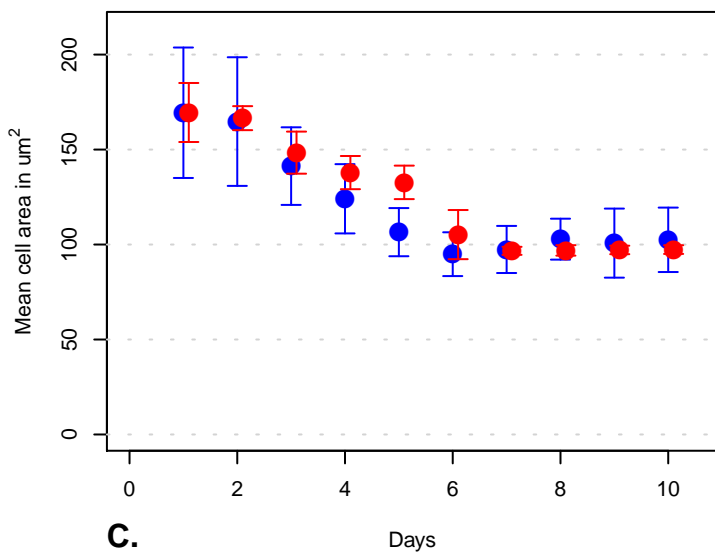
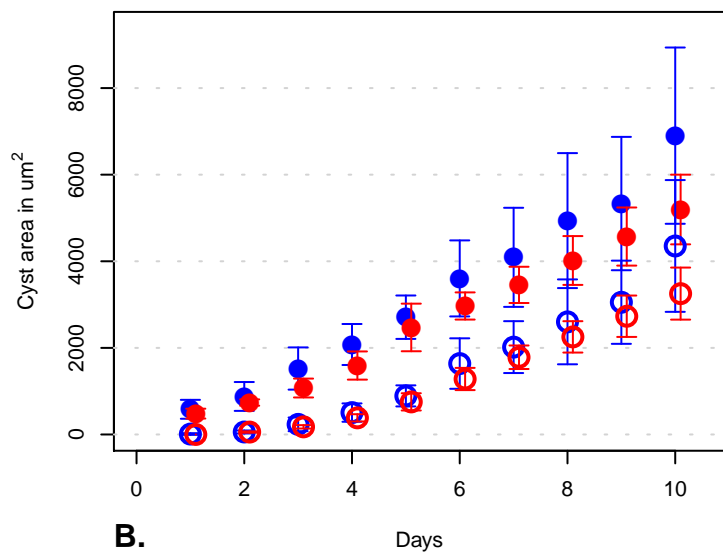
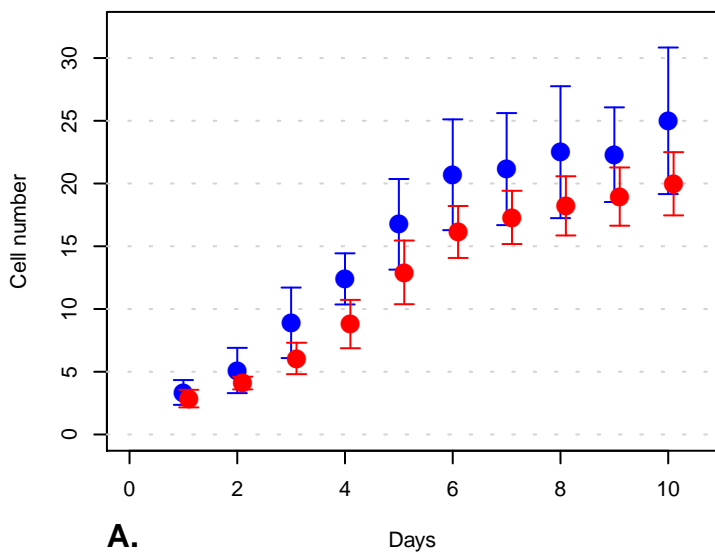
**Figure S11-19) Varied cellCycle: cc = 50**



**Figure S11-20) Varied cellCycle: cc = 60**



**Figure S11-21) Varied cellCycle: cc = 80**



**Figure S11-22) Varied cellCycle: cc = 100**

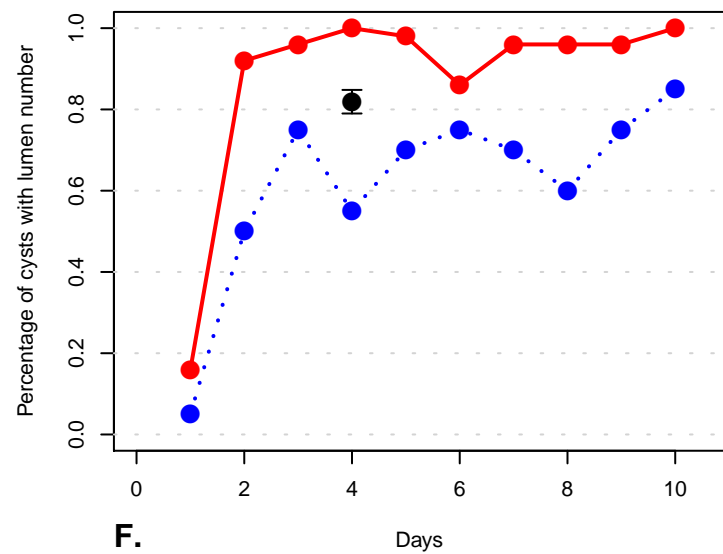
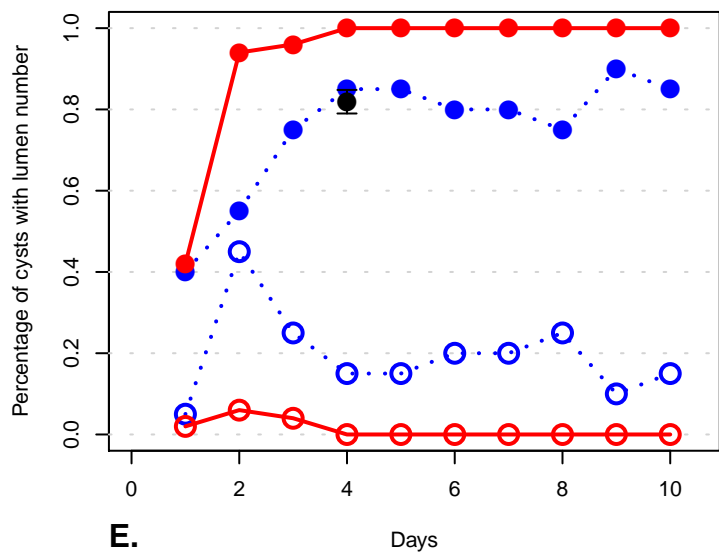
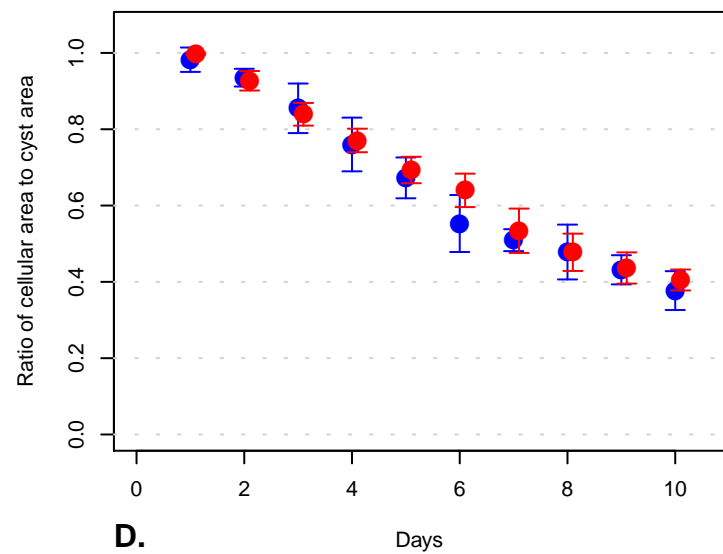
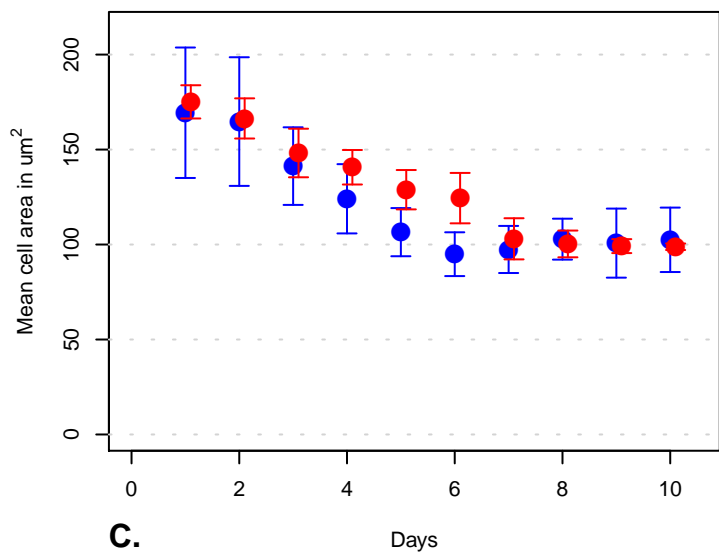
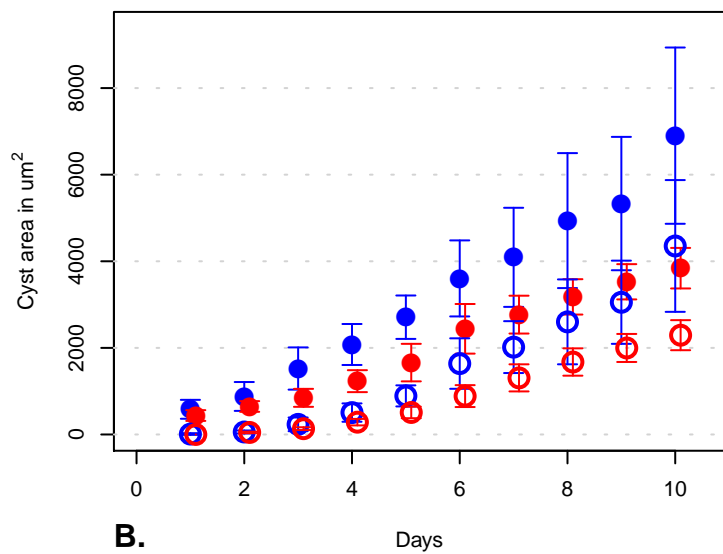
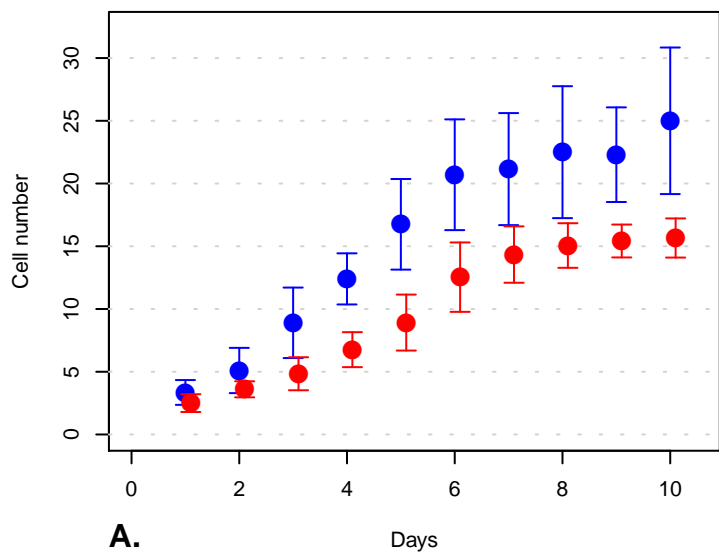
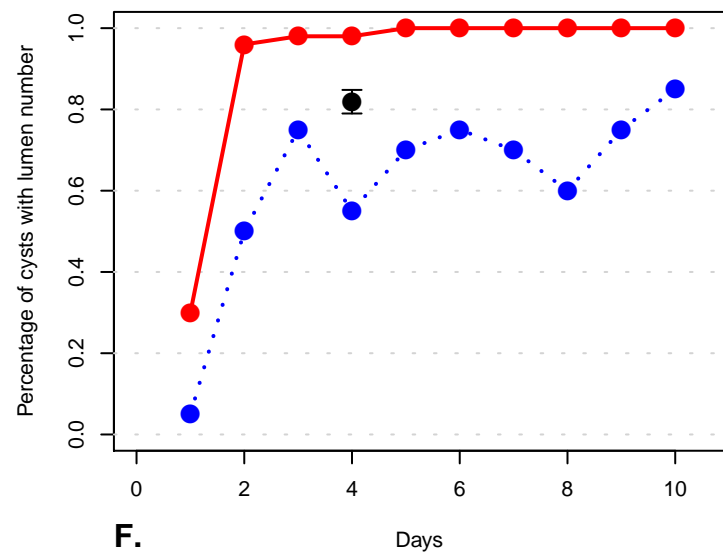
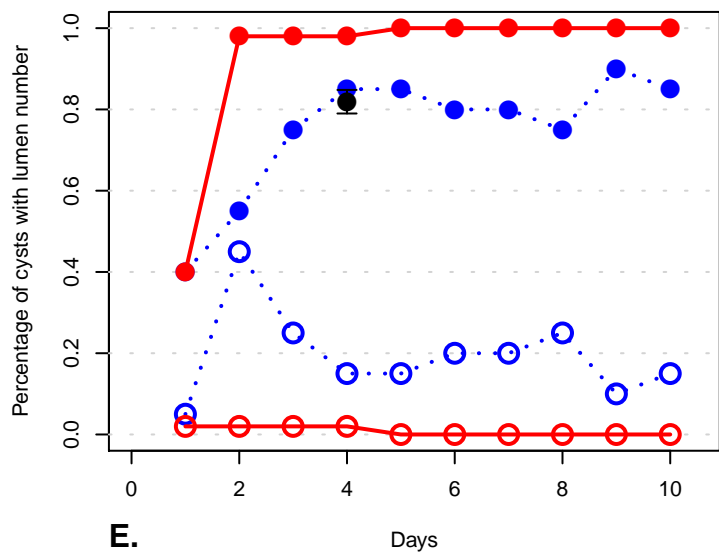
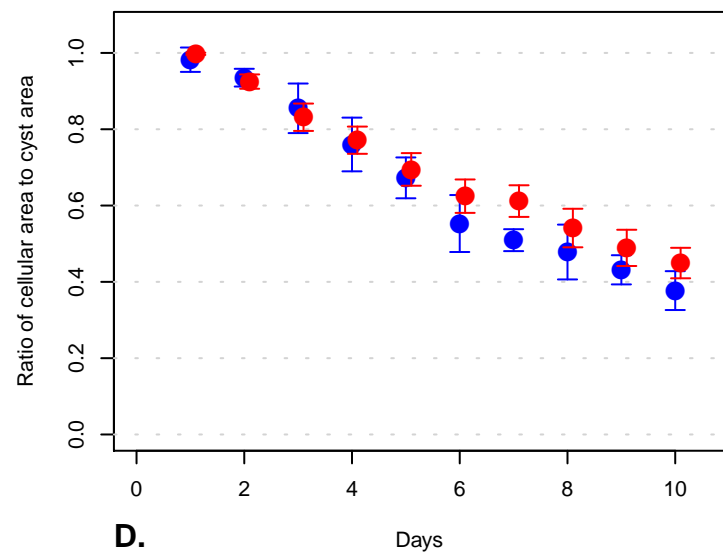
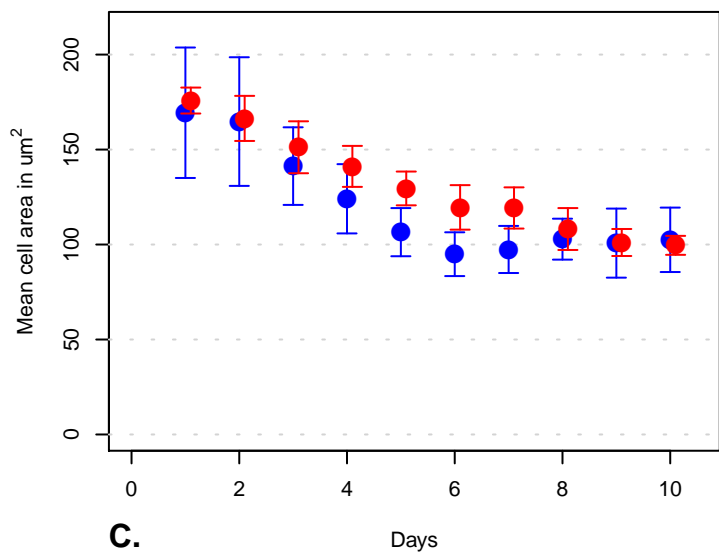
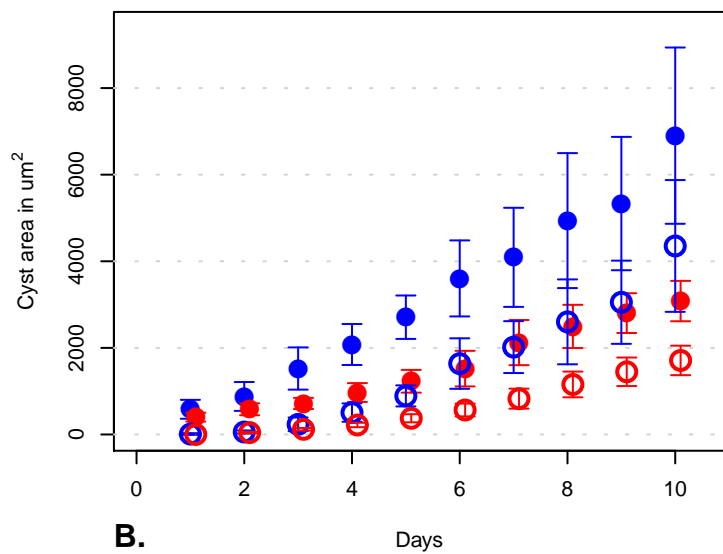
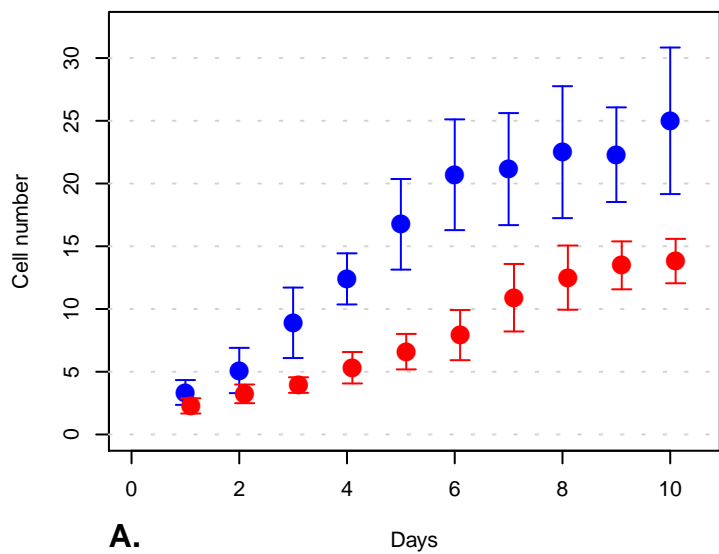
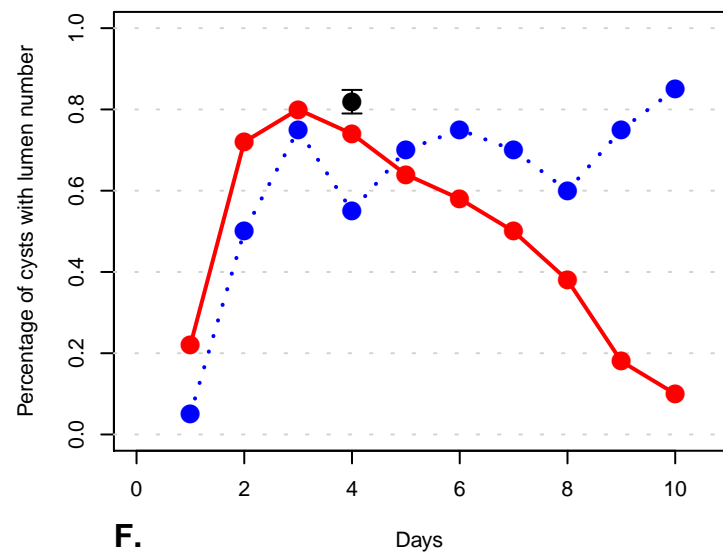
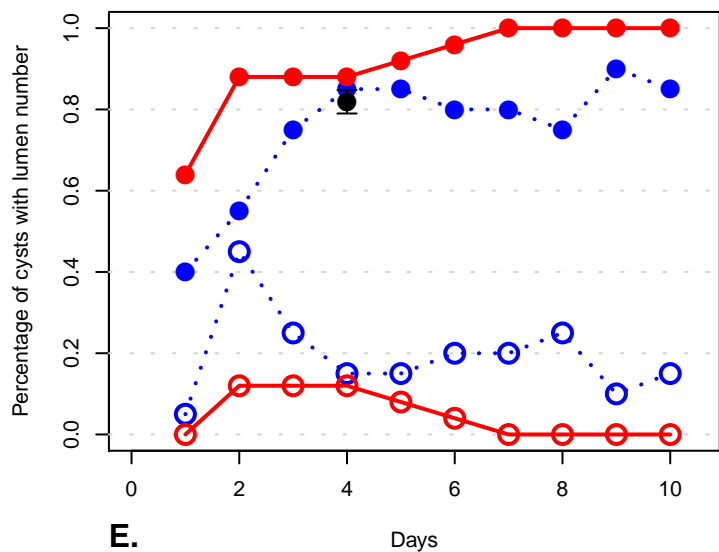
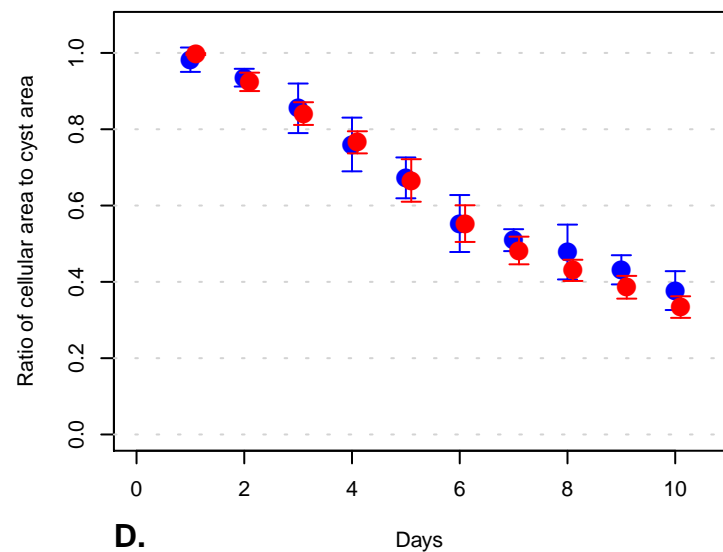
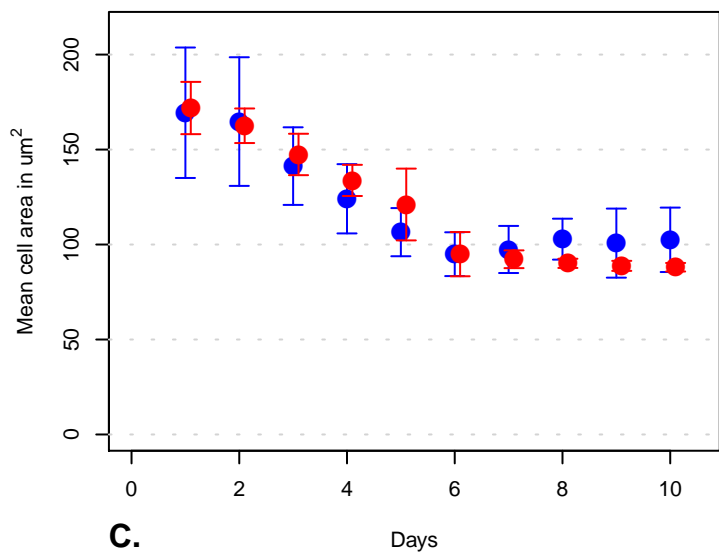
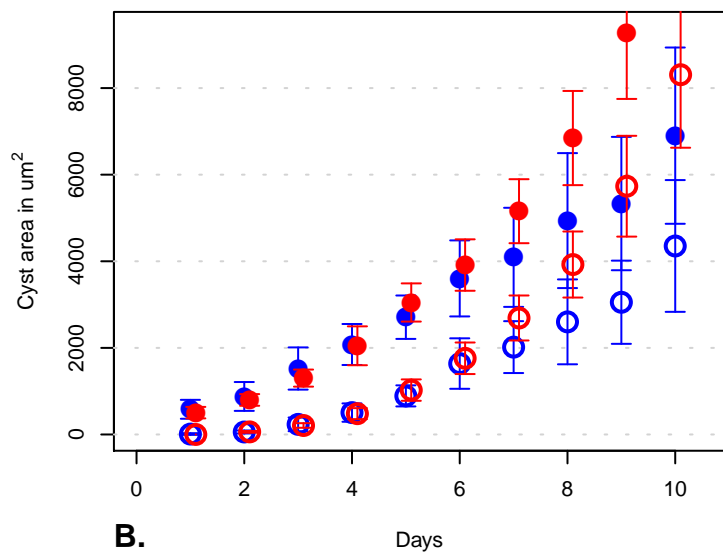
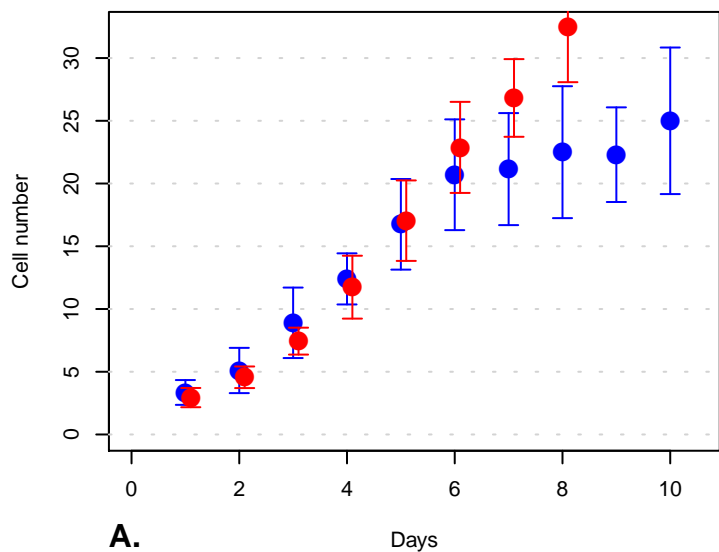


Figure S11-23) Varied cellCycle: cc = 140

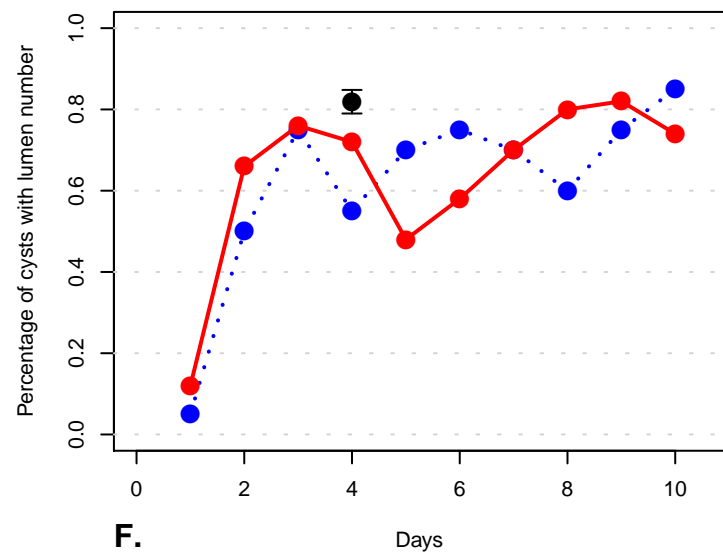
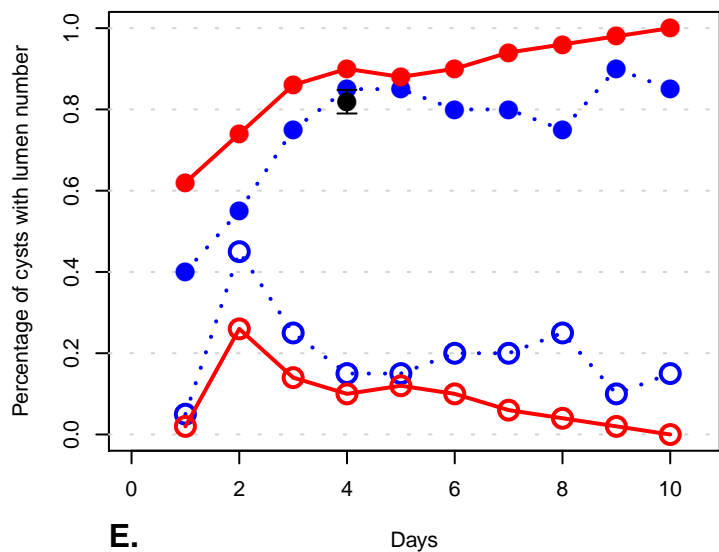
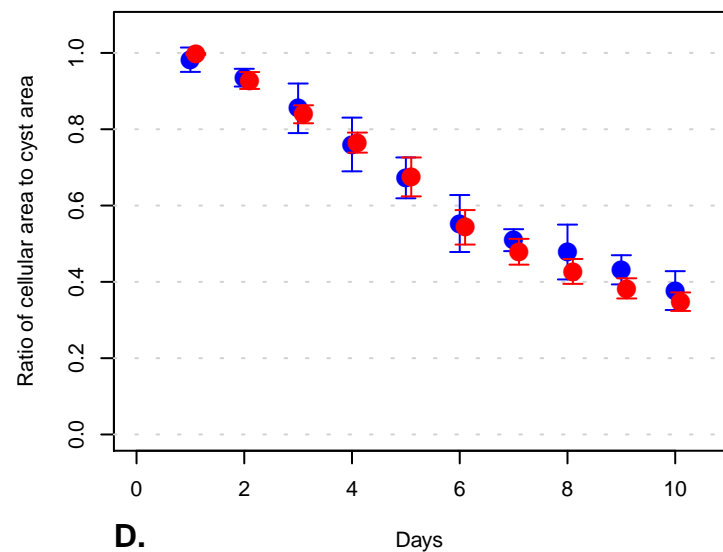
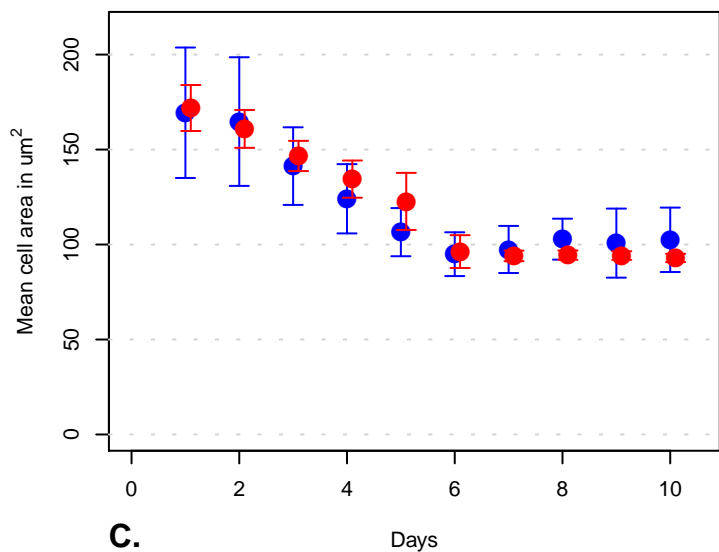
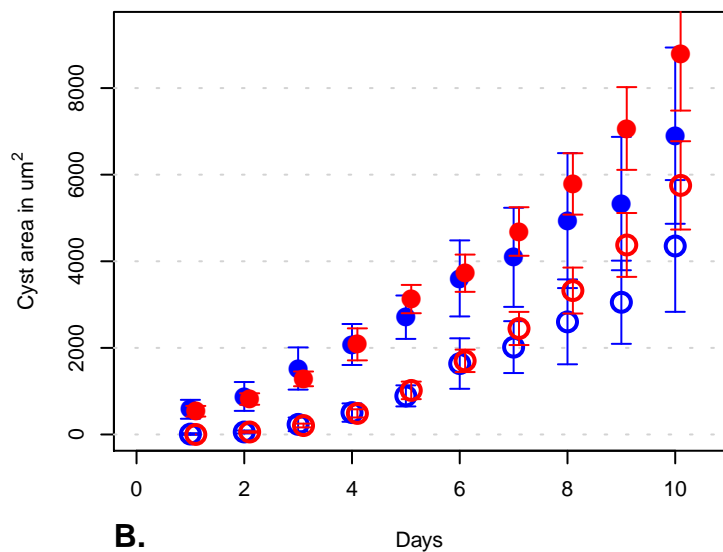
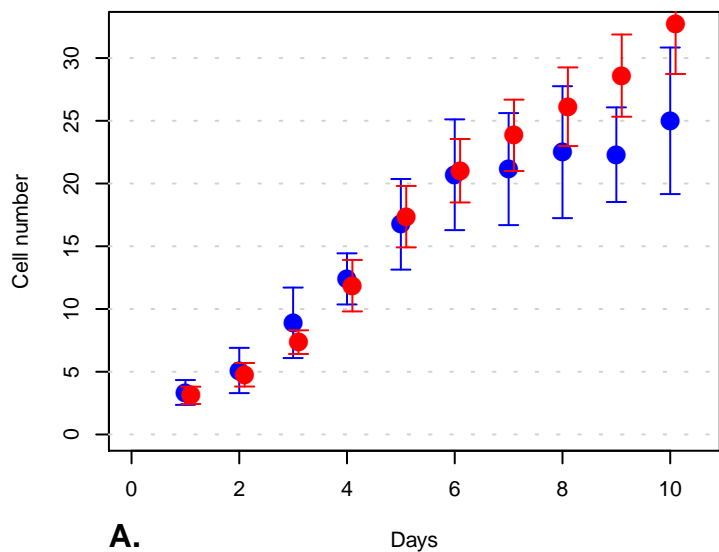


**Figure S11-24) Varied stableCycleDelay: scd = 0.5**





**Figure S11–25) Varied stableCycleDelay: scd = 0.7**



**Figure S11-26) Varied stableCycleDelay: scd = 0.9**

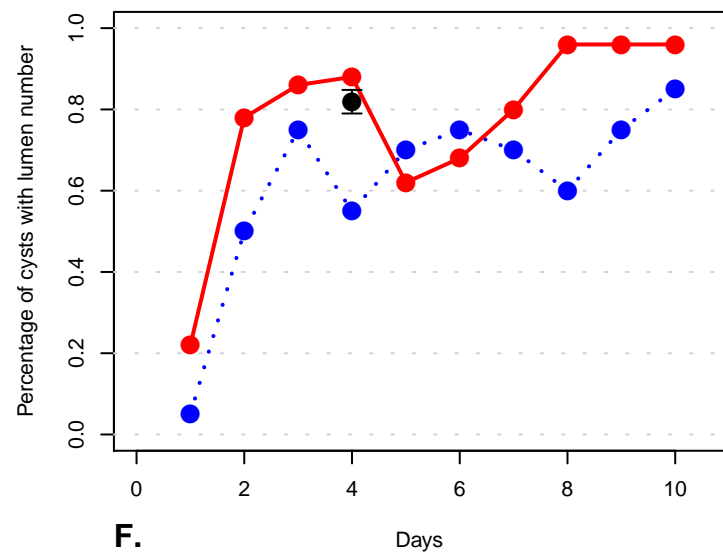
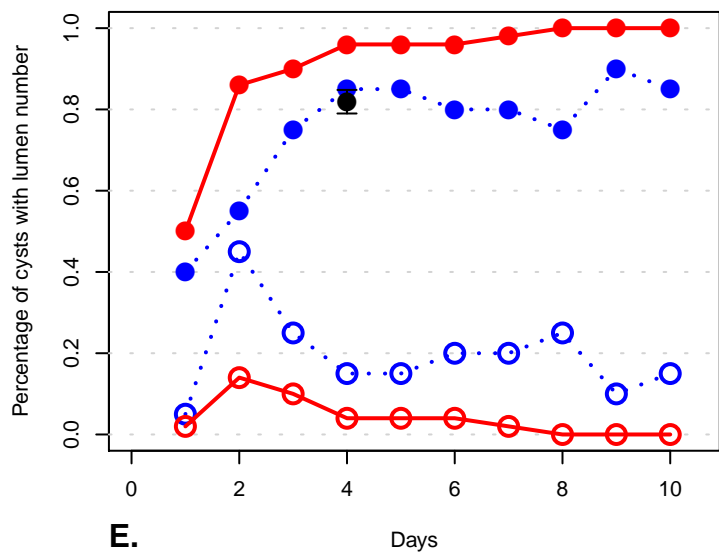
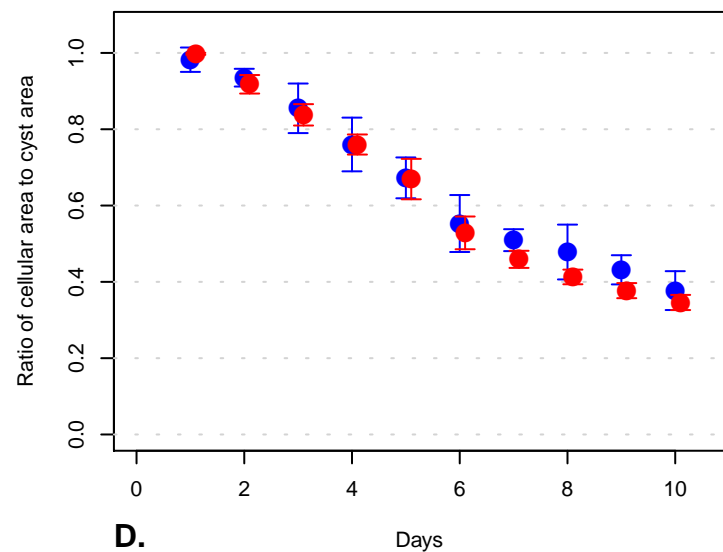
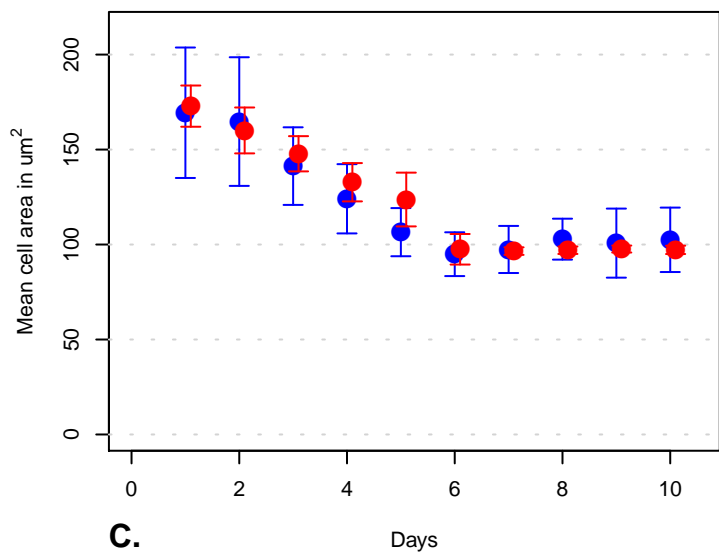
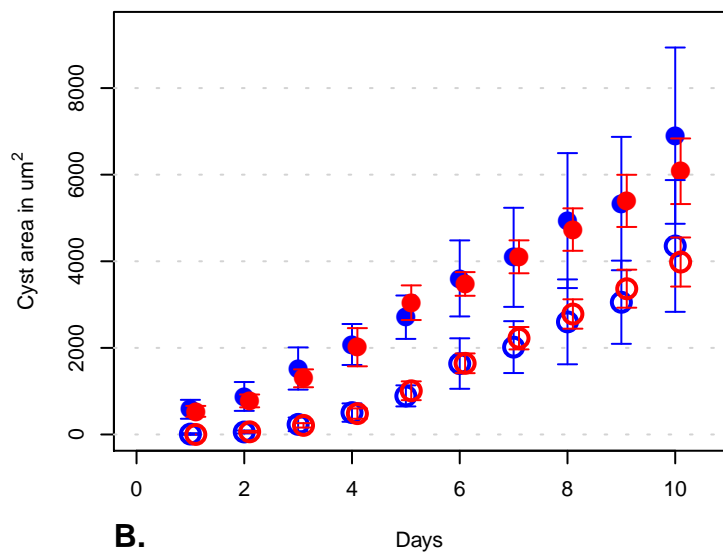
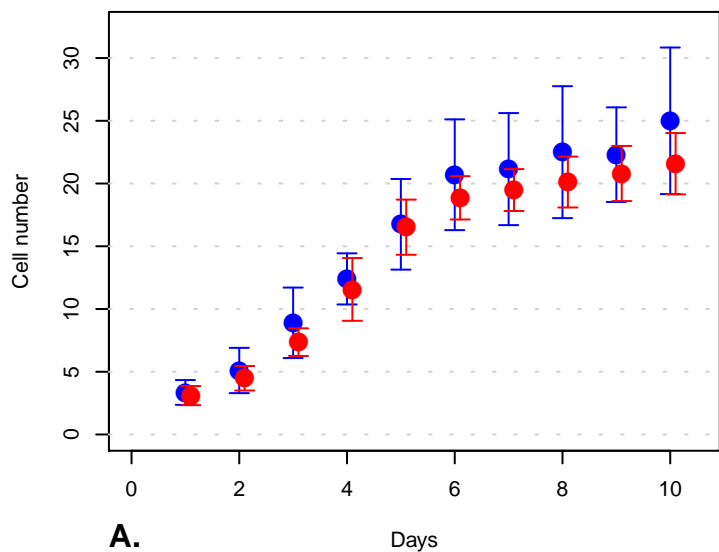
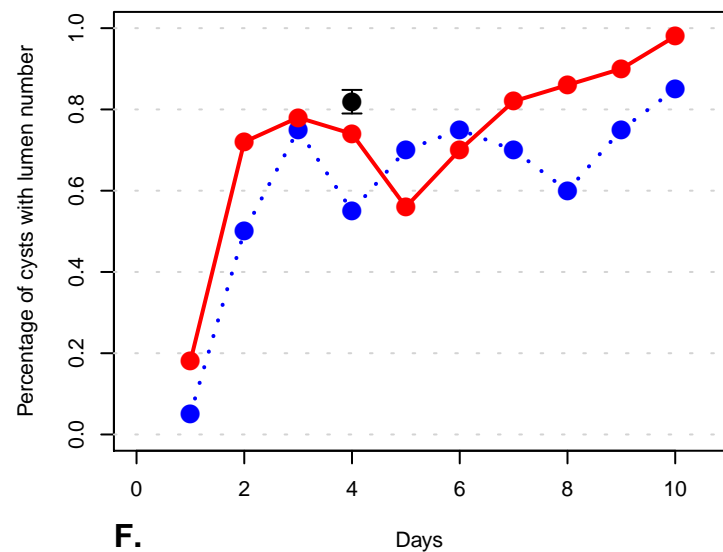
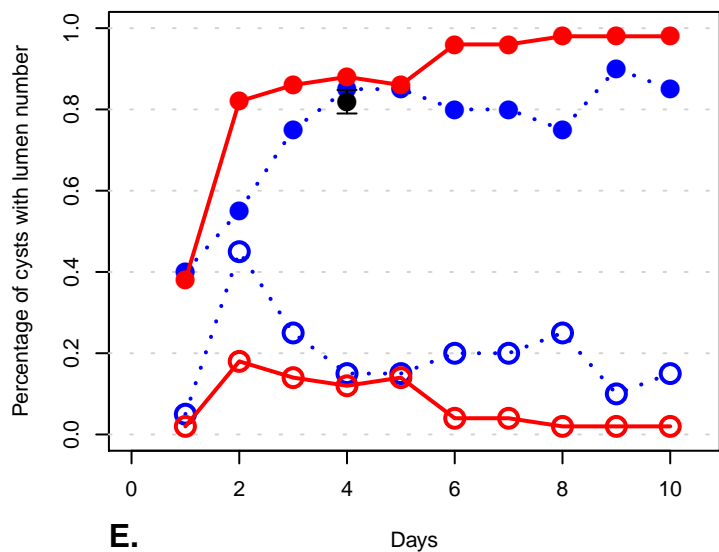
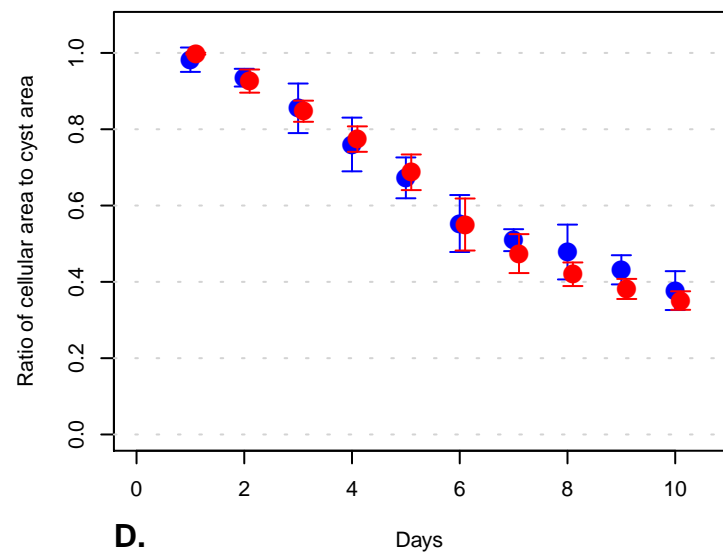
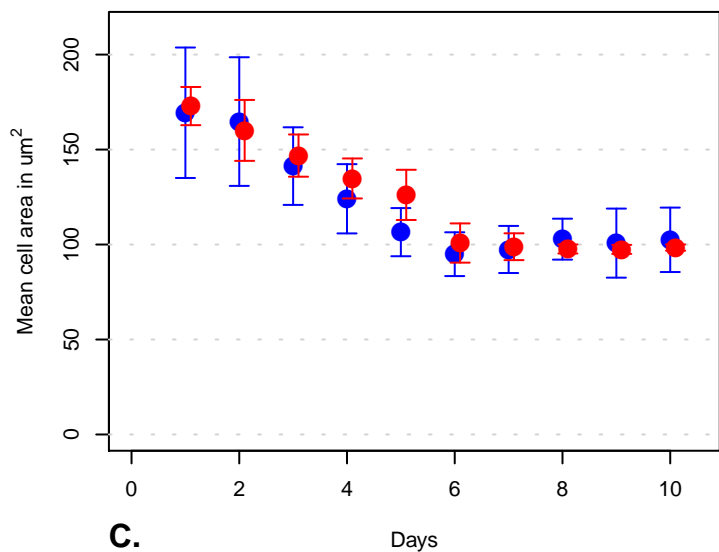
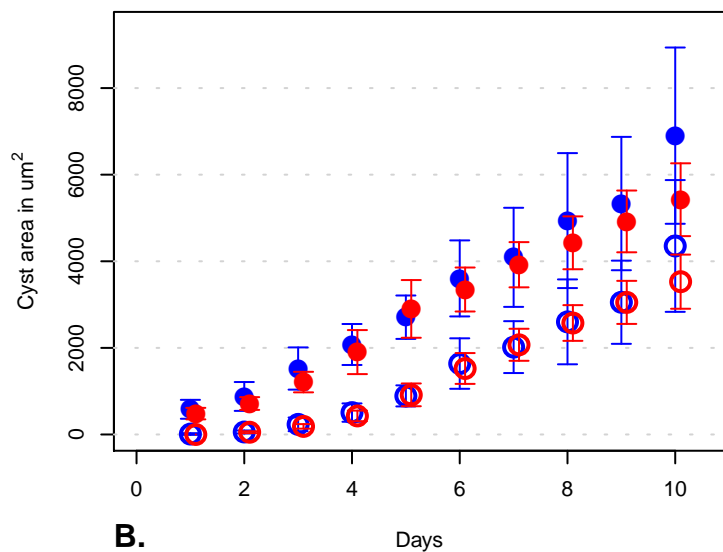
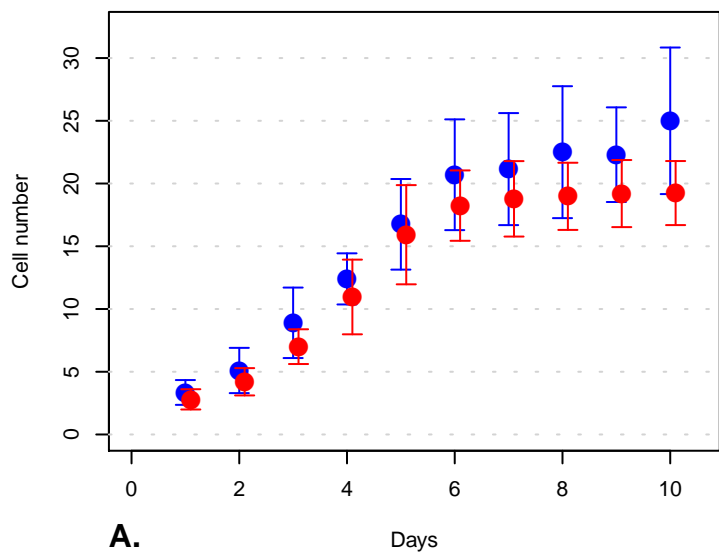
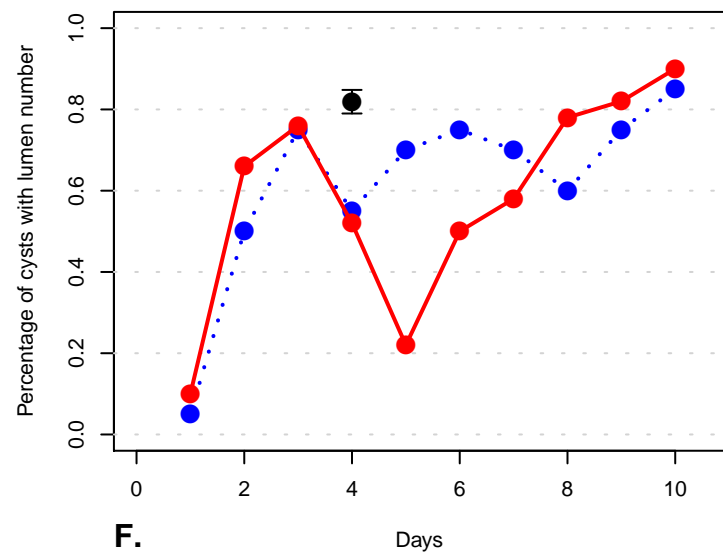
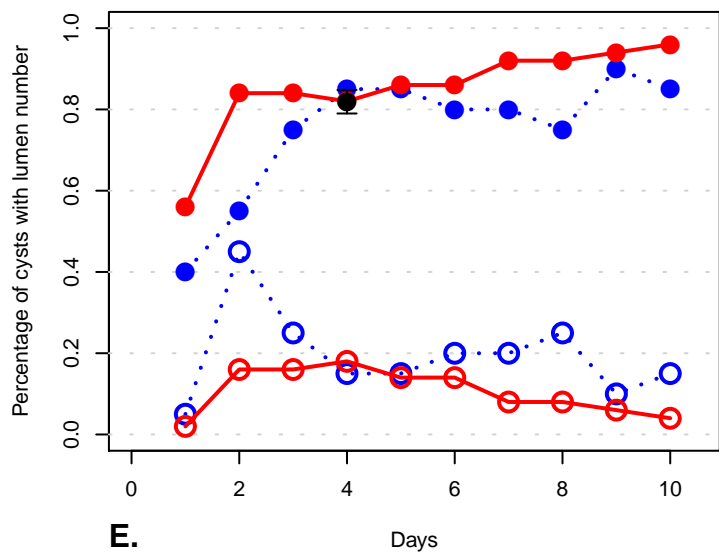
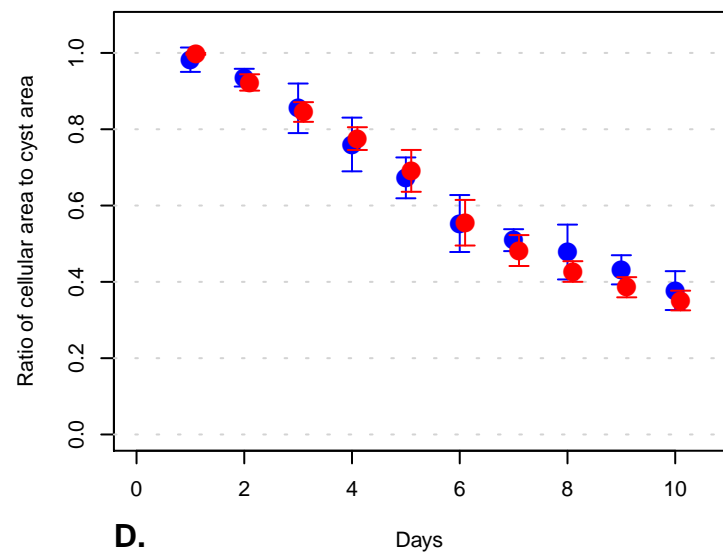
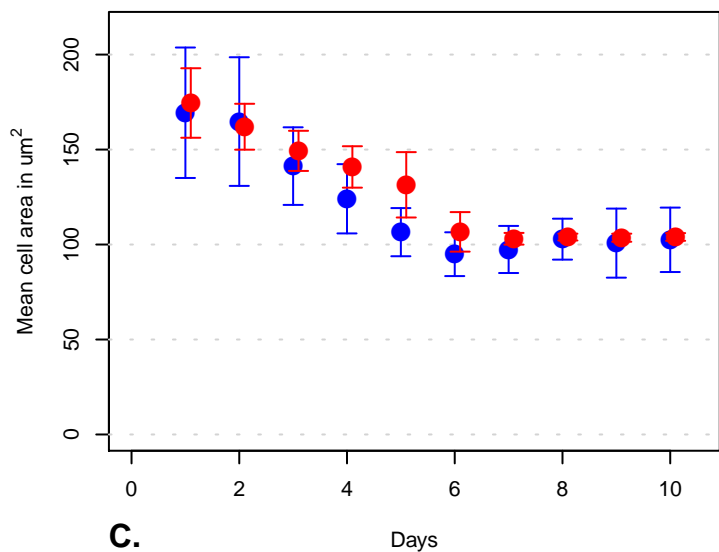
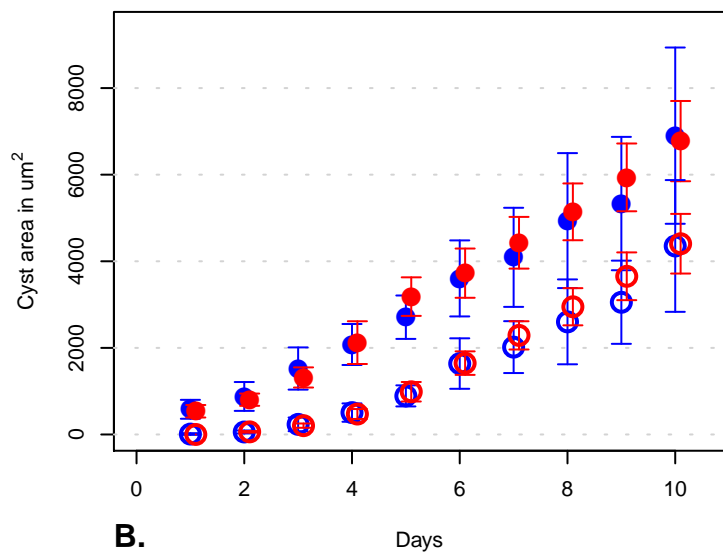
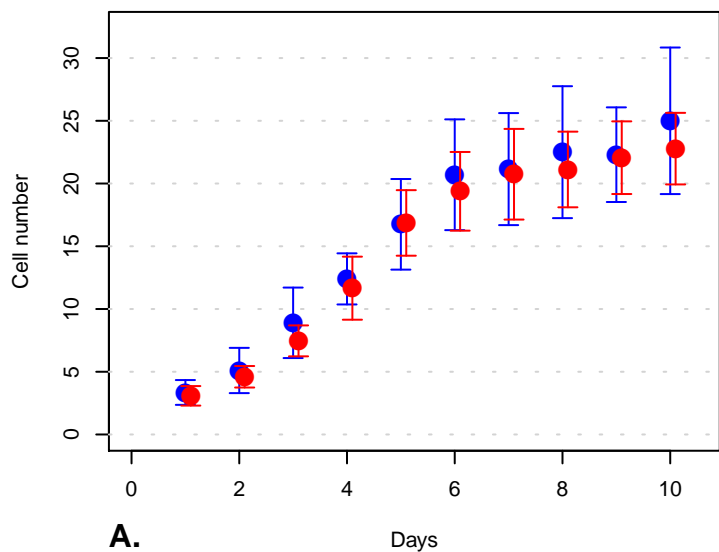


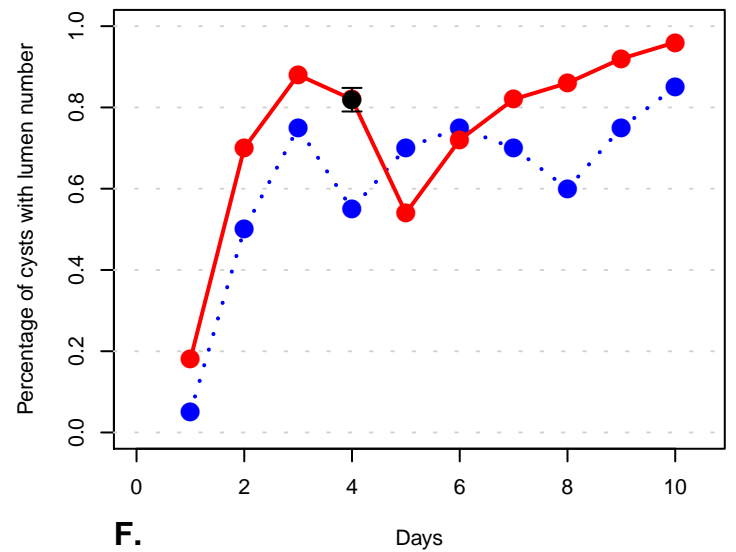
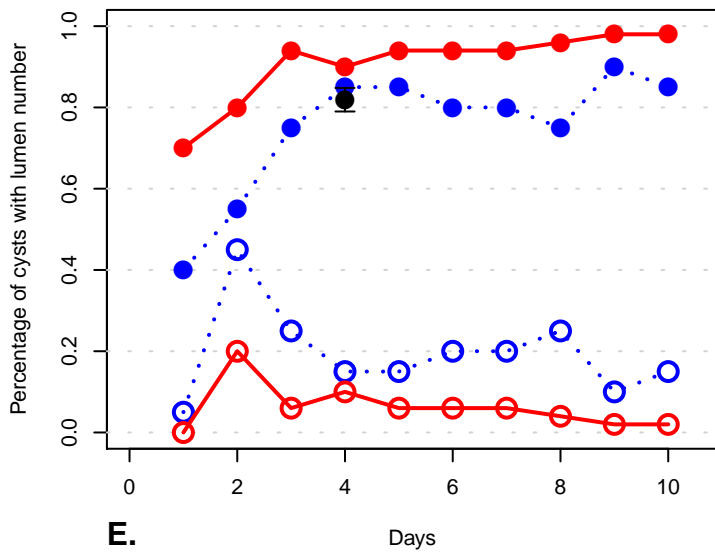
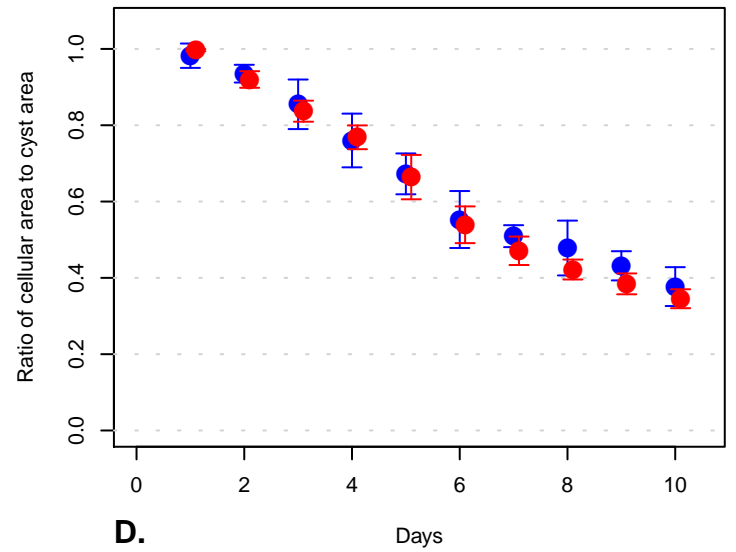
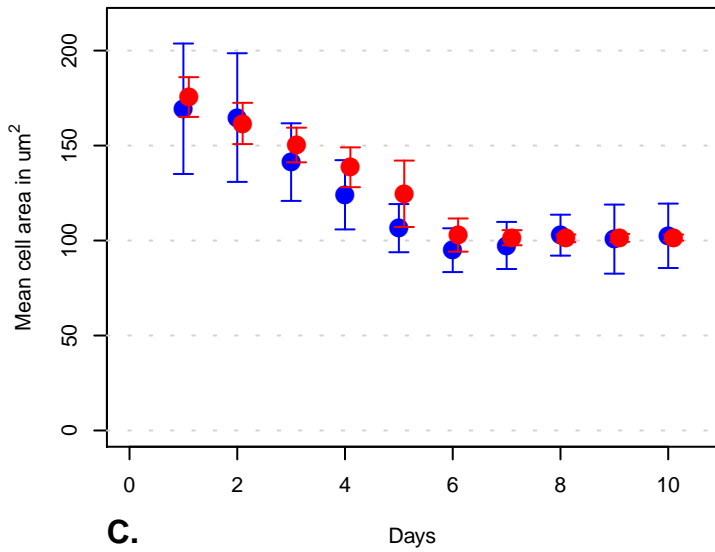
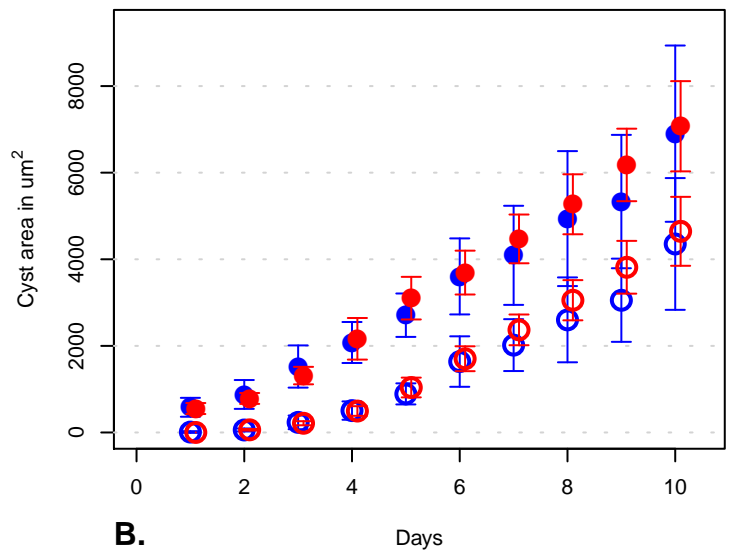
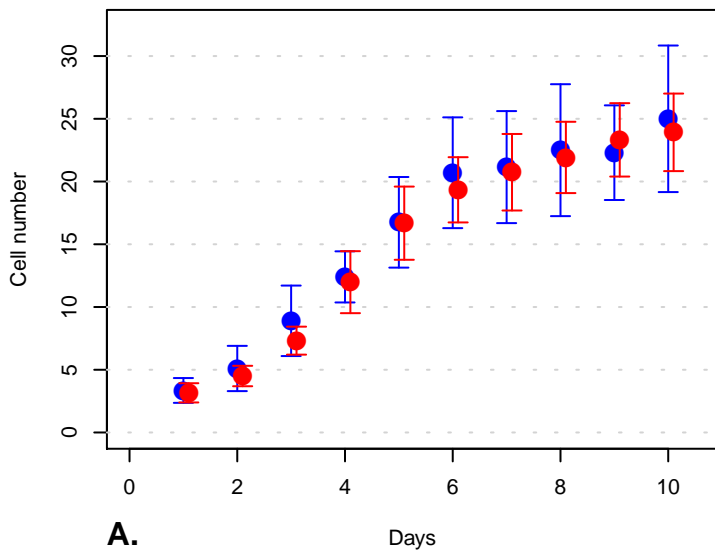
Figure S11-27) Varied stableCycleDelay:  $scd = 0.95$



**Figure S11–28) Varied lambdaPerim: Ip = .5**



**Figure S11-29) Varied lambdaPerim: Ip = 1.25**



**Figure S11–30) Varied lambdaPerim: Ip = 5**

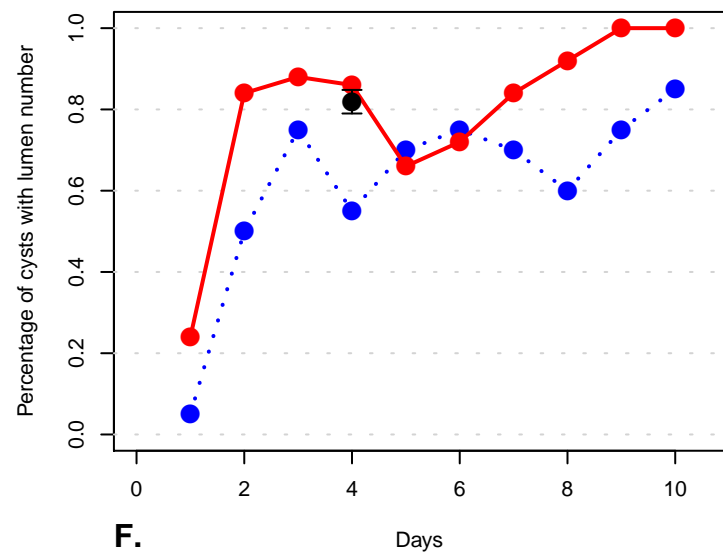
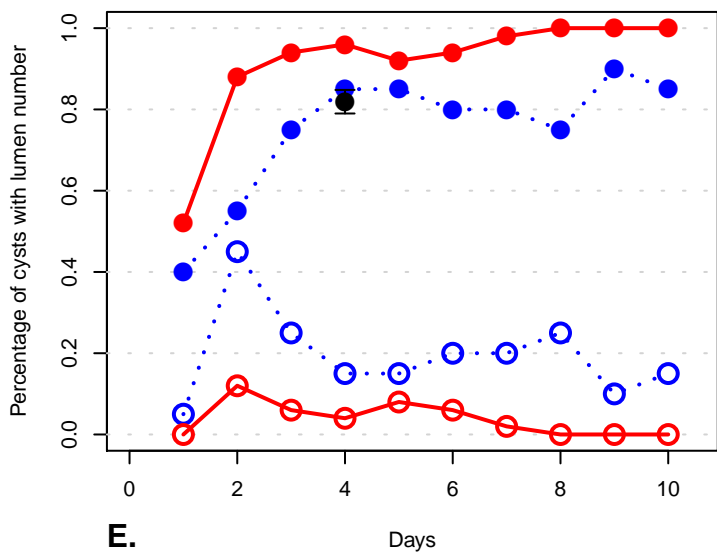
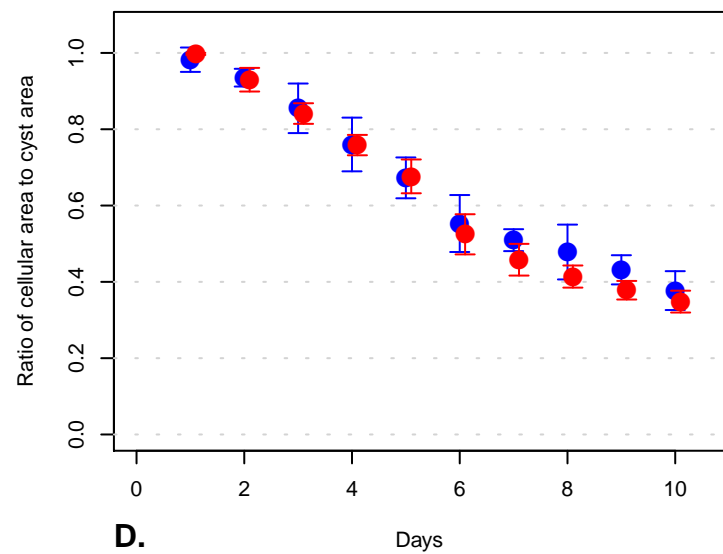
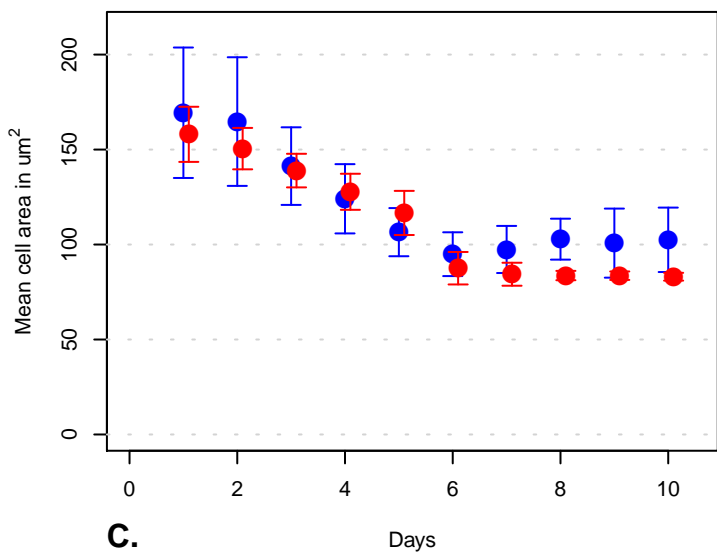
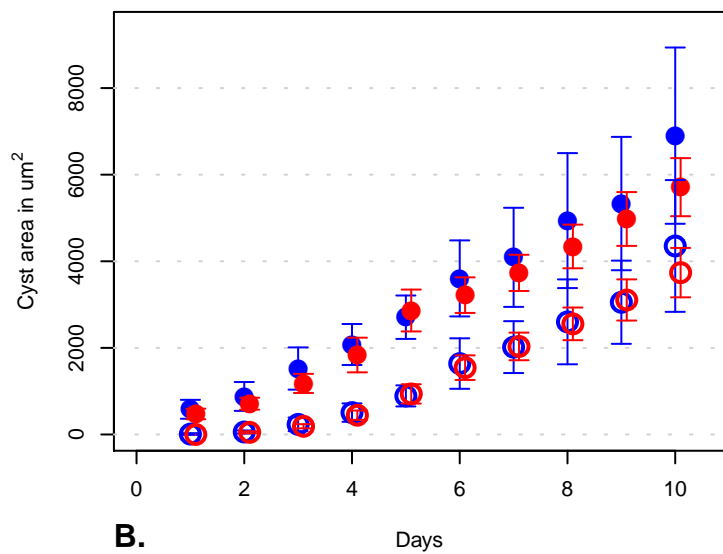
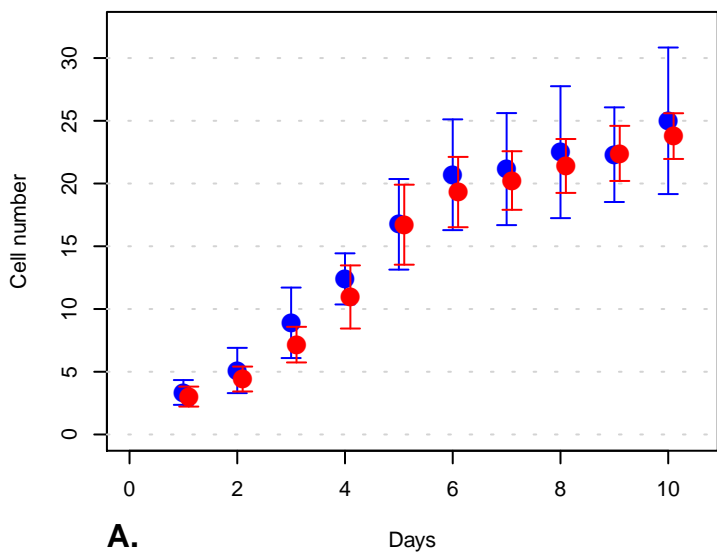


Figure S11–31) Varied lambdaPerim: Ip = 10

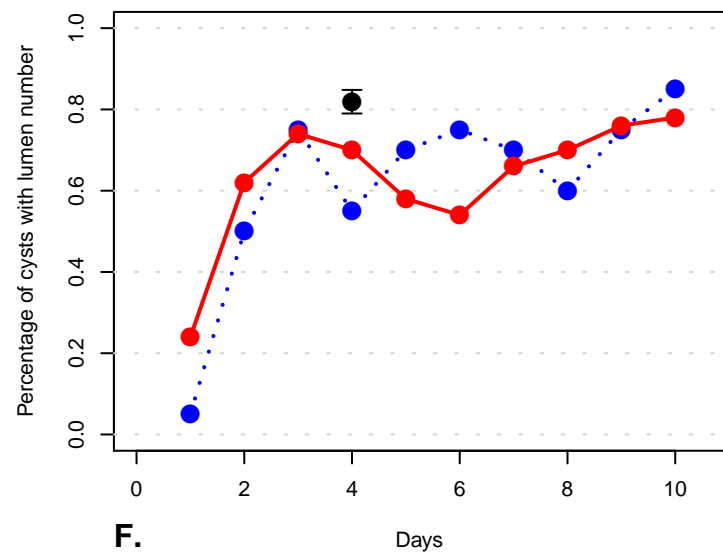
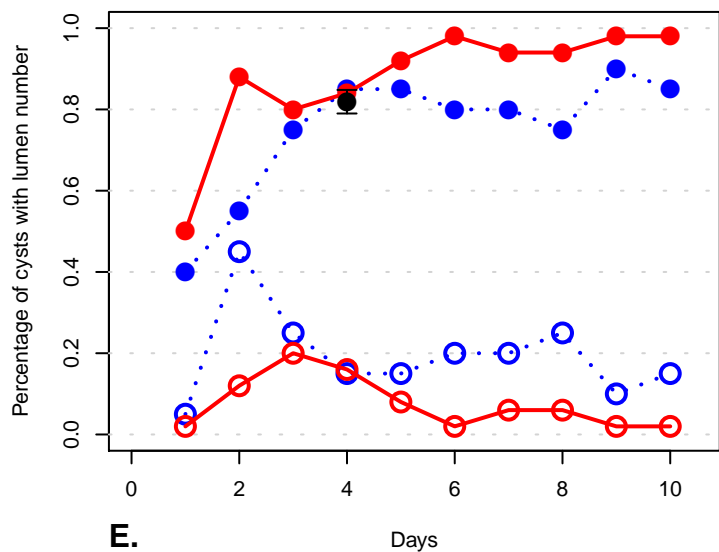
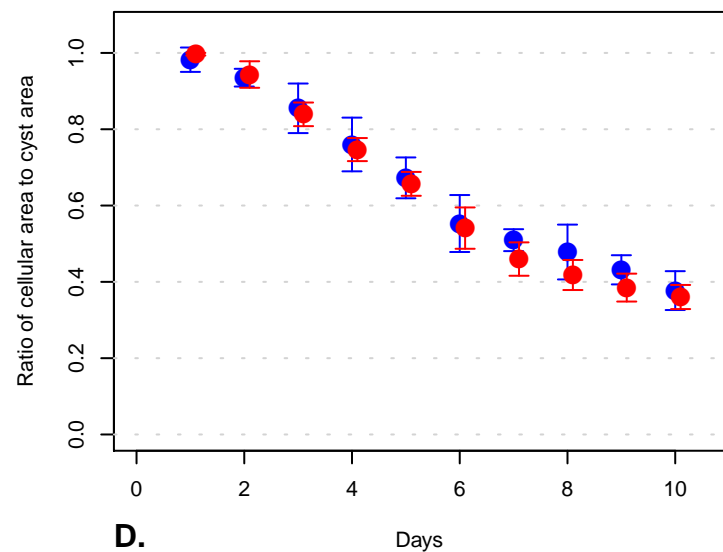
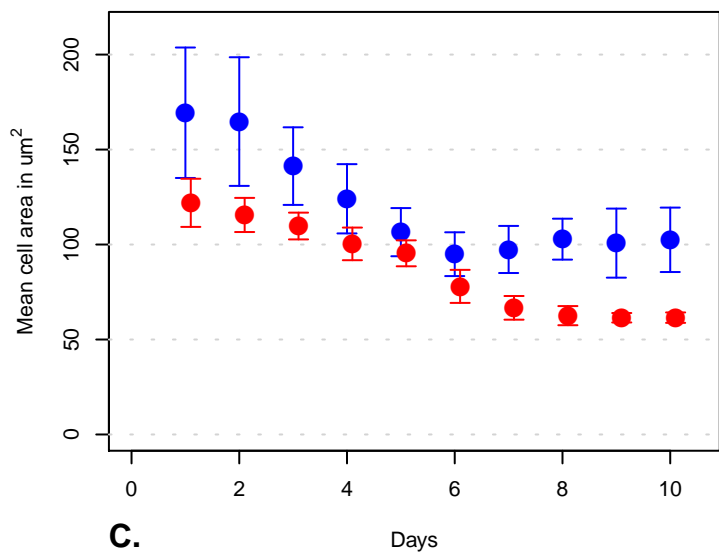
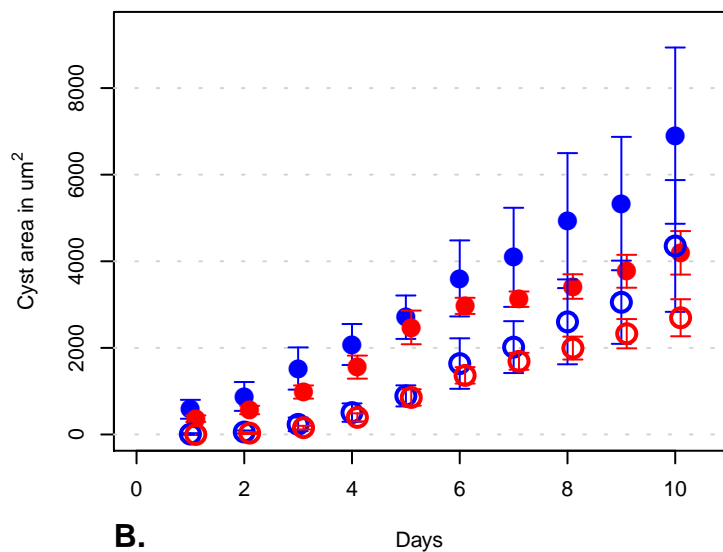
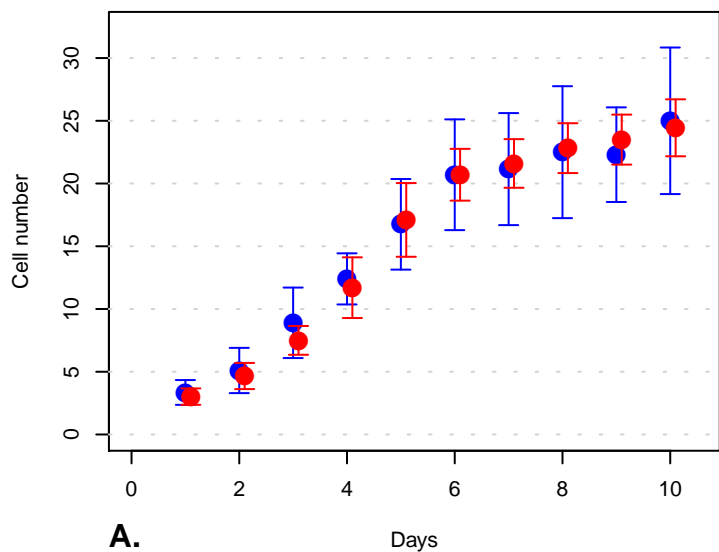


Figure S11-32) Varied polarDelay: pd = 10

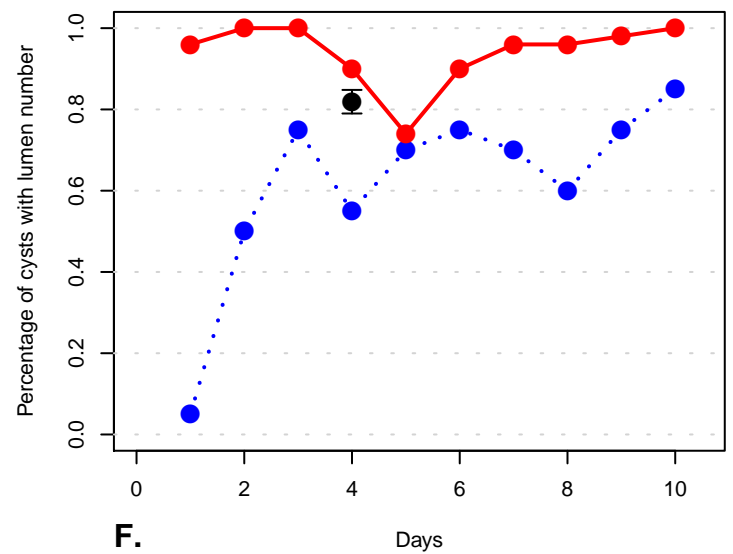
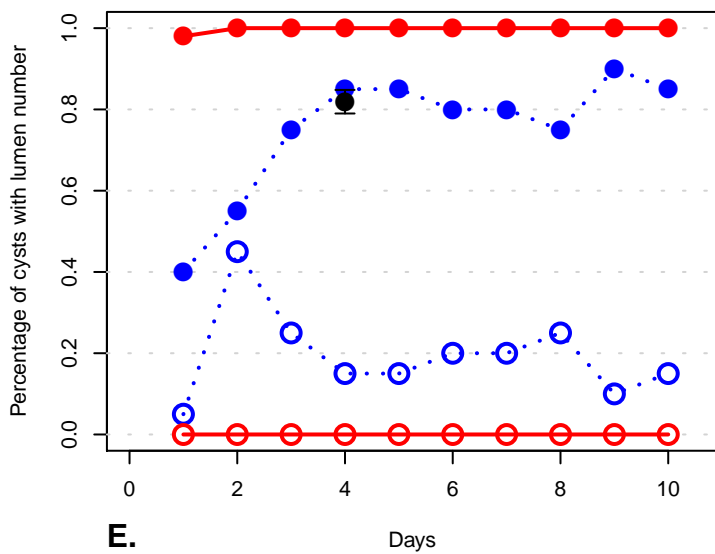
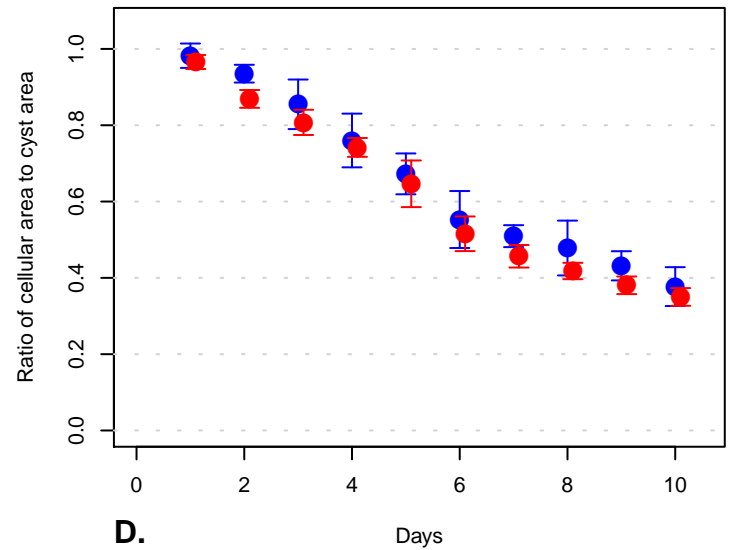
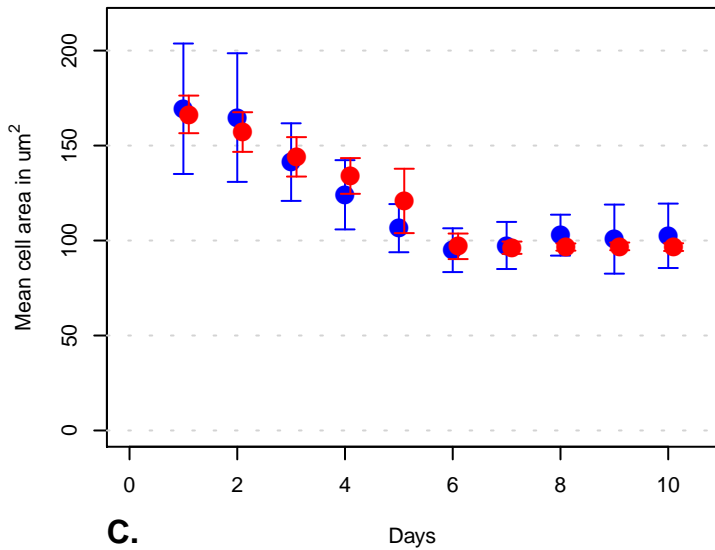
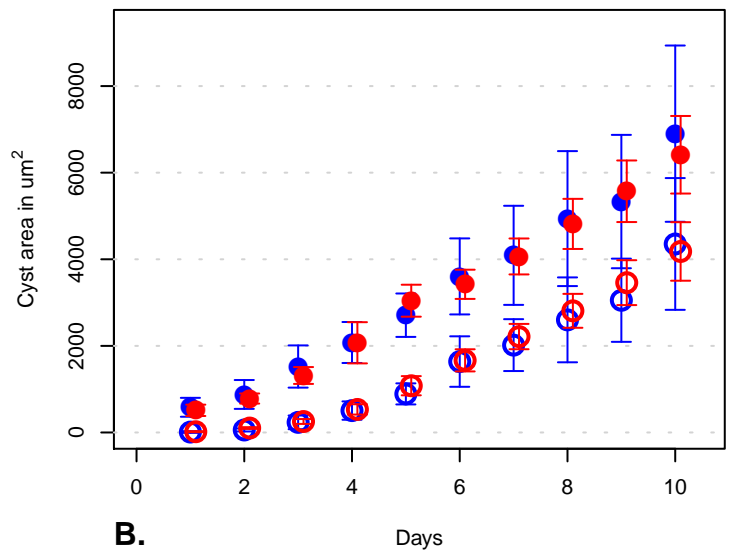
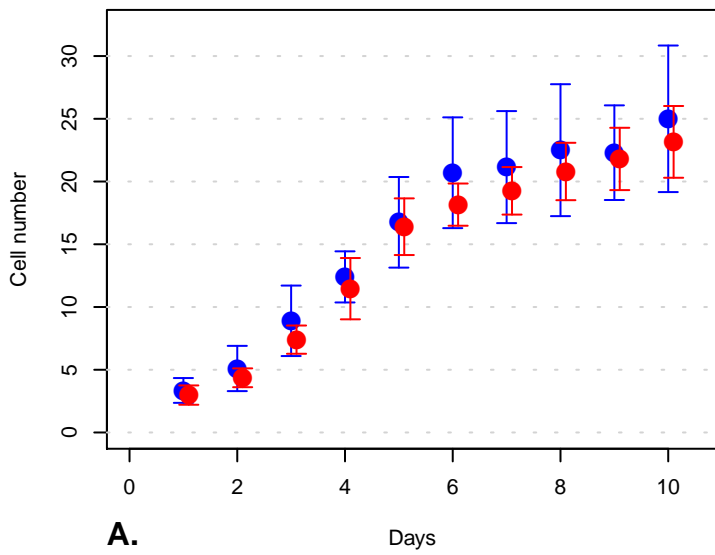
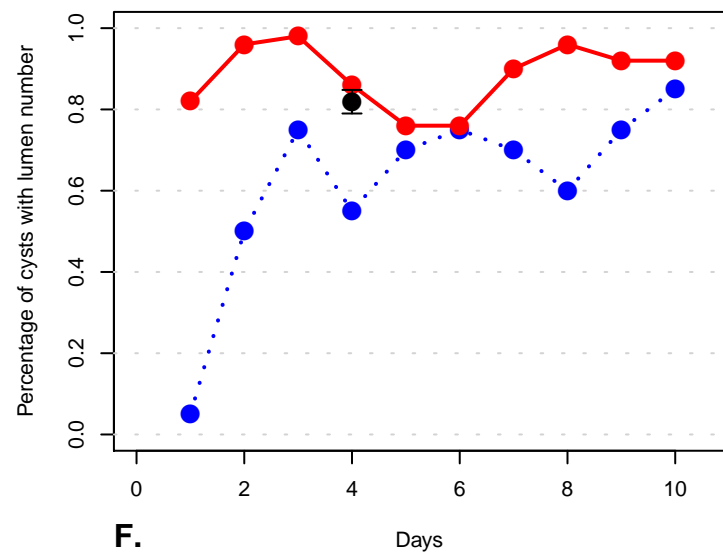
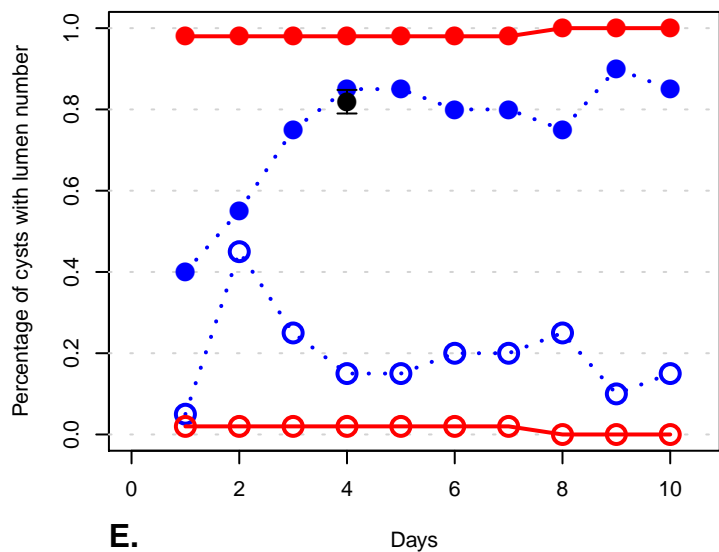
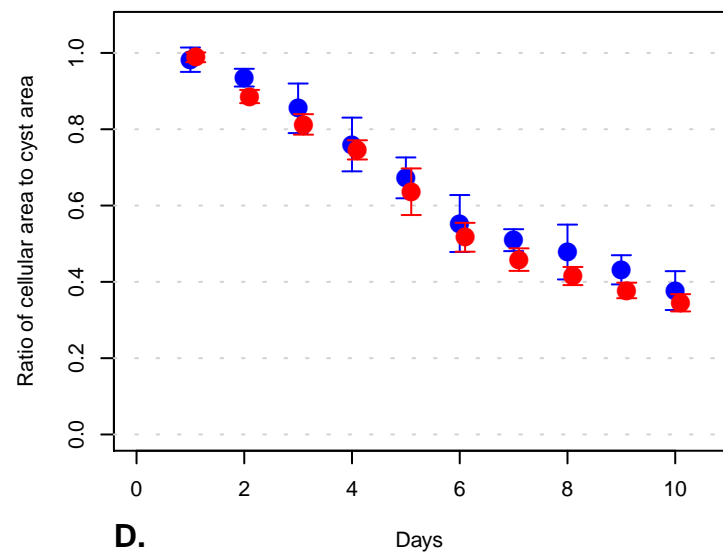
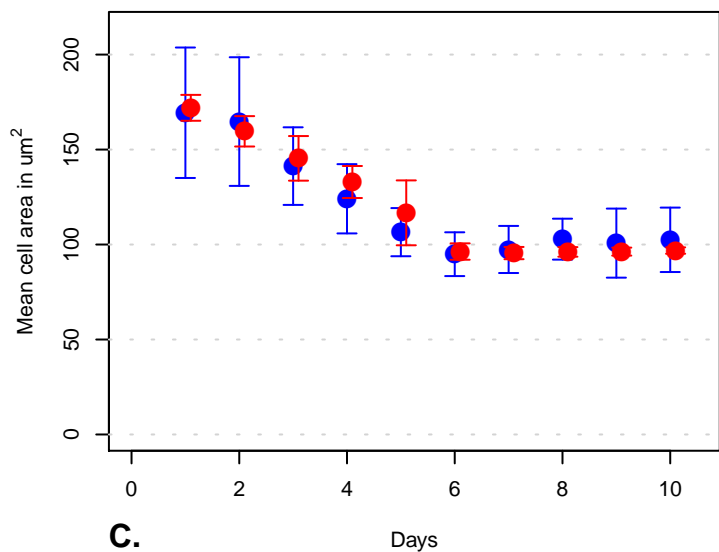
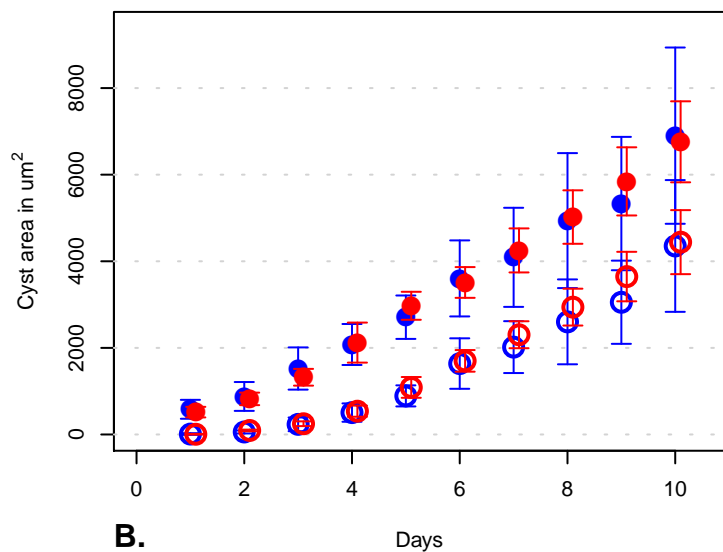
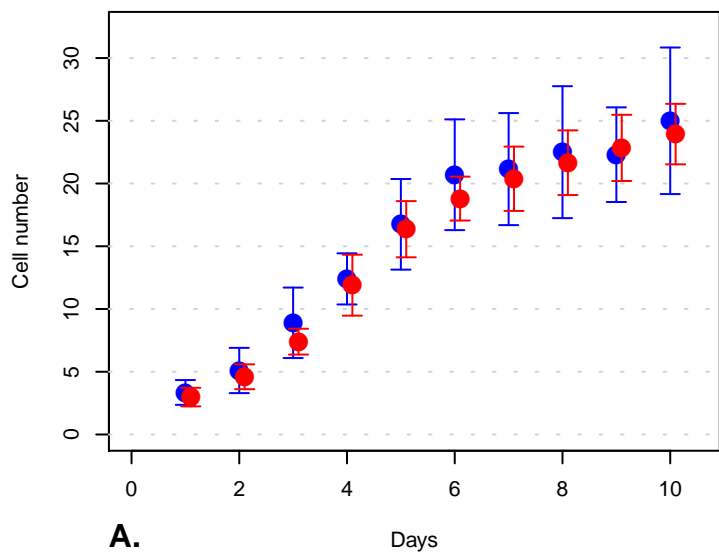
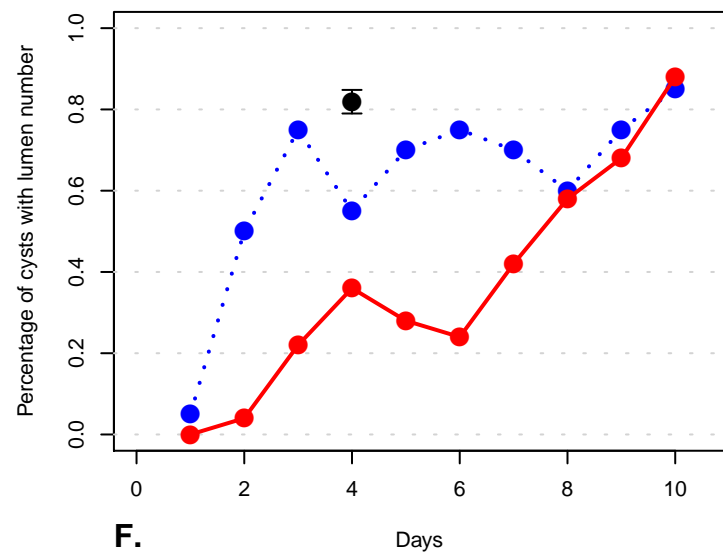
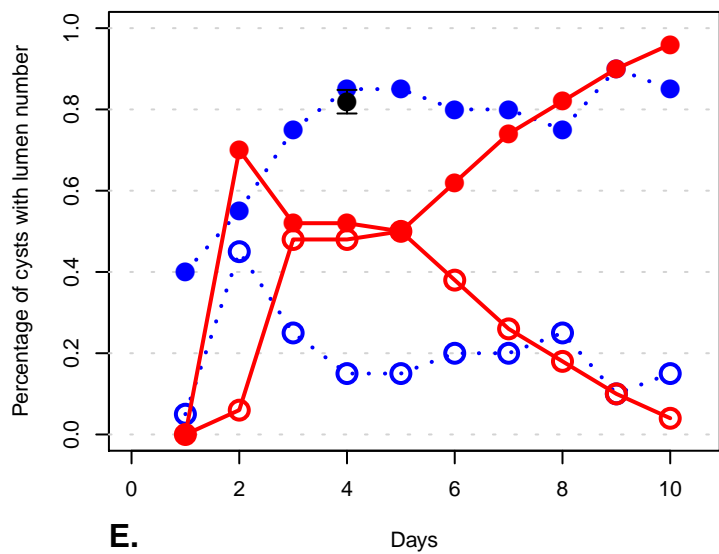
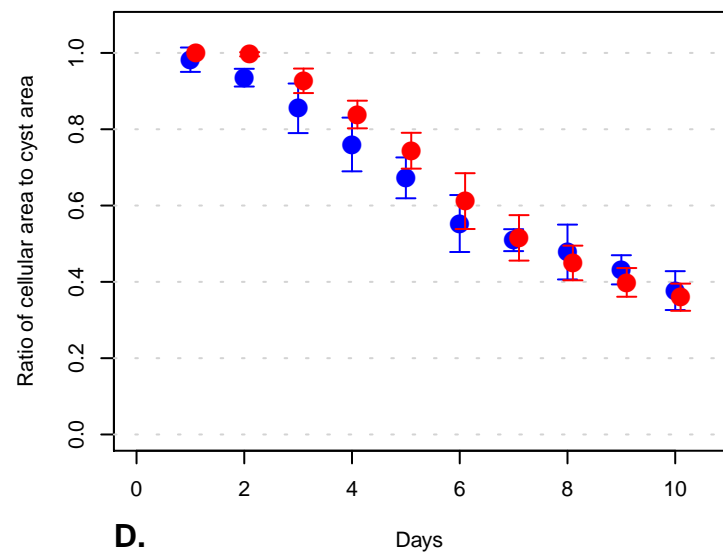
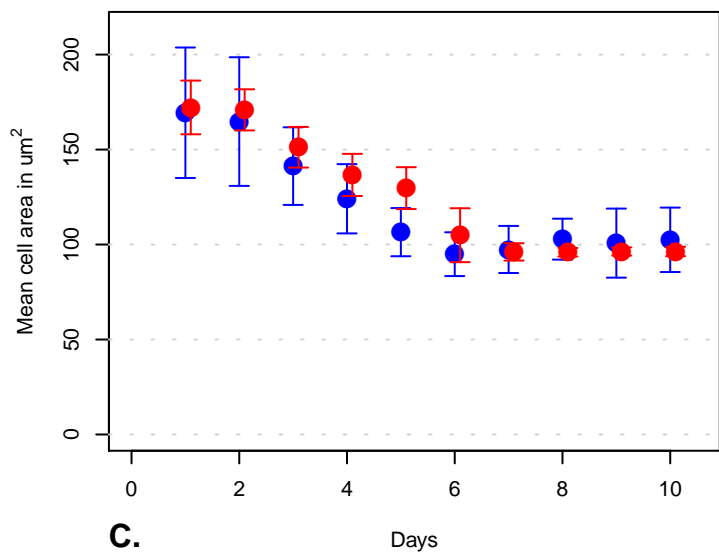
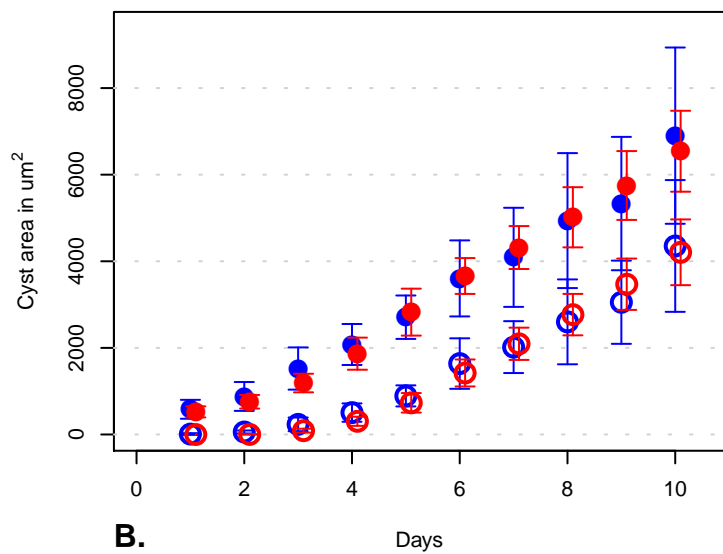
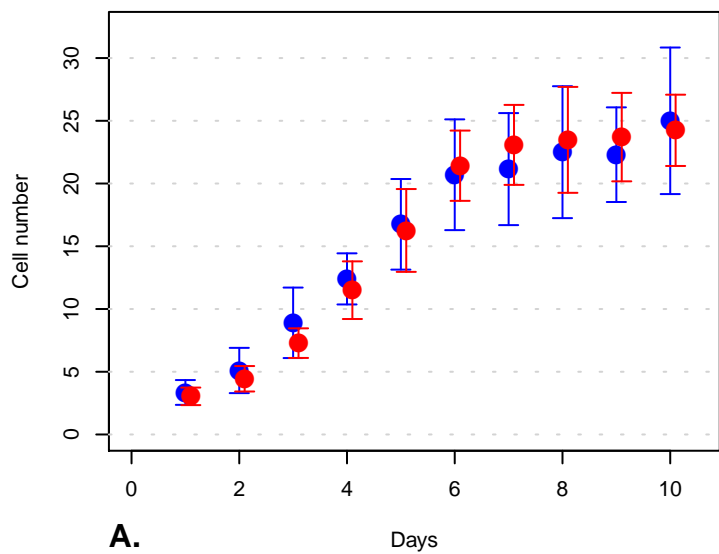




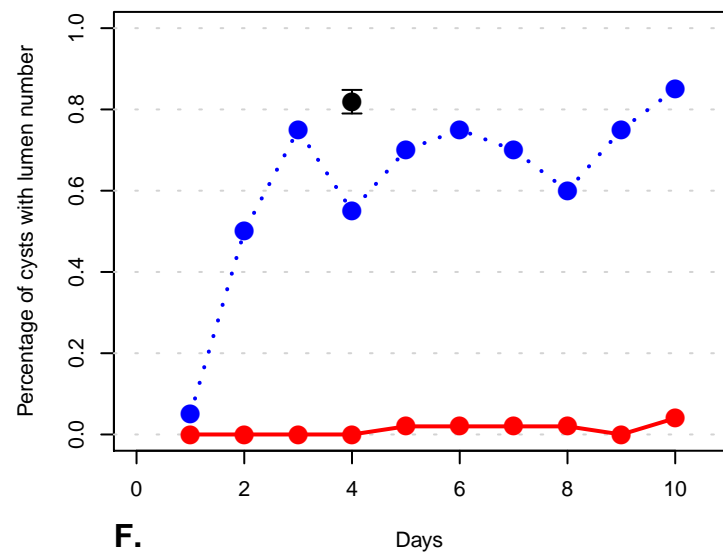
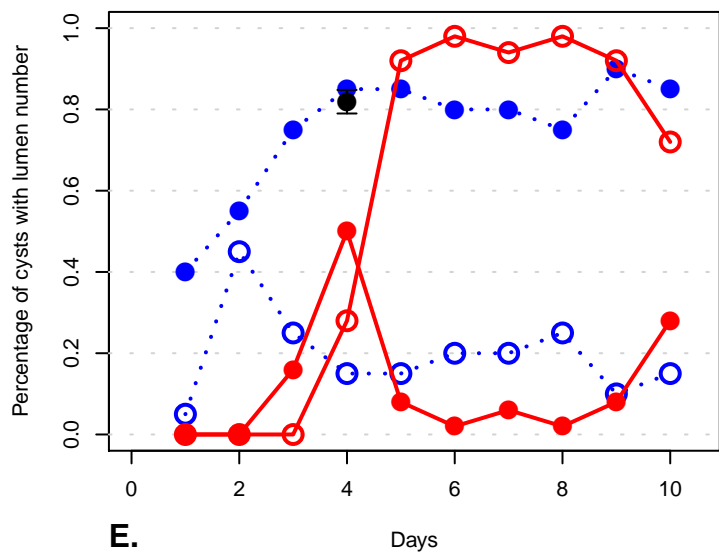
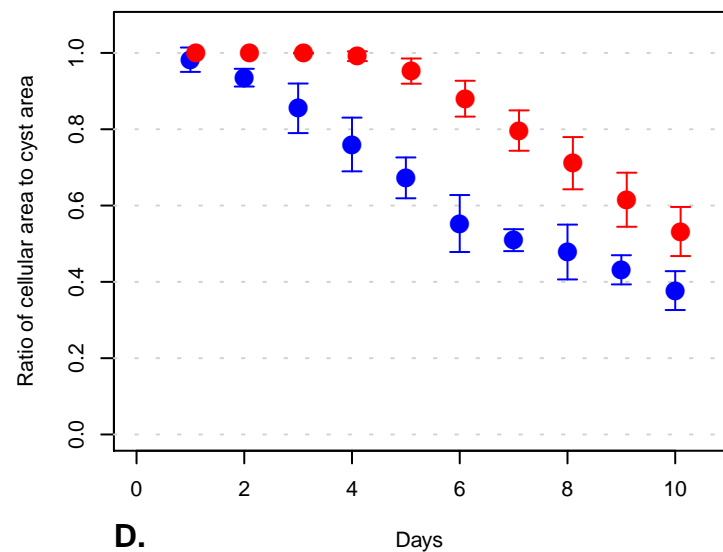
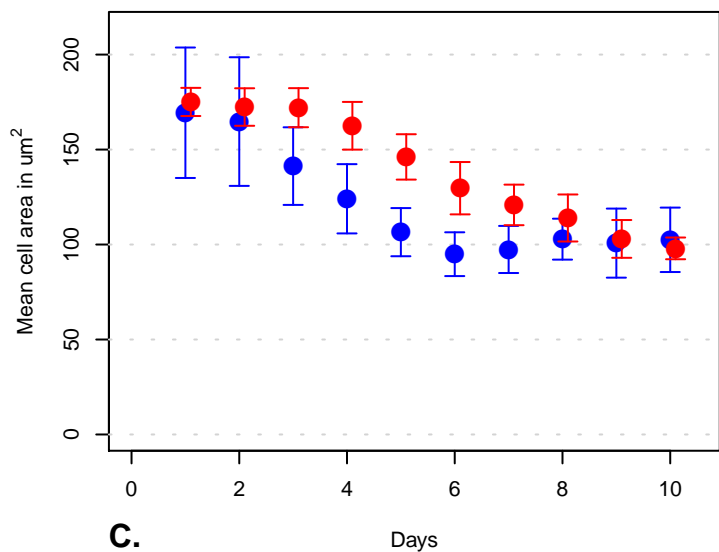
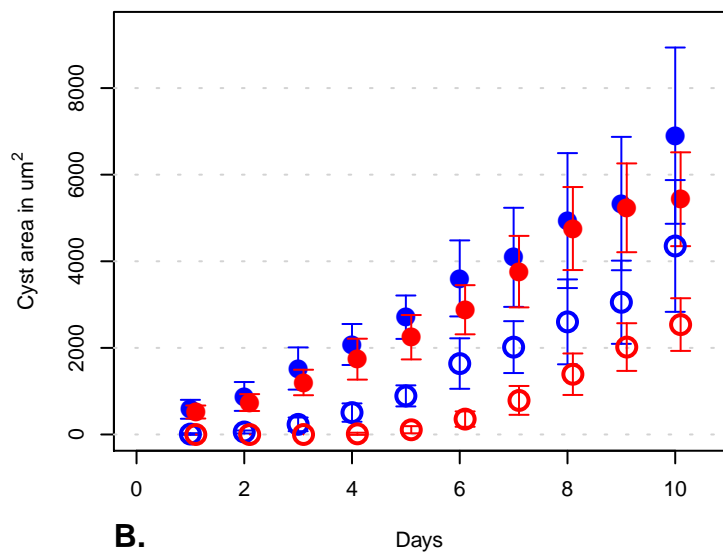
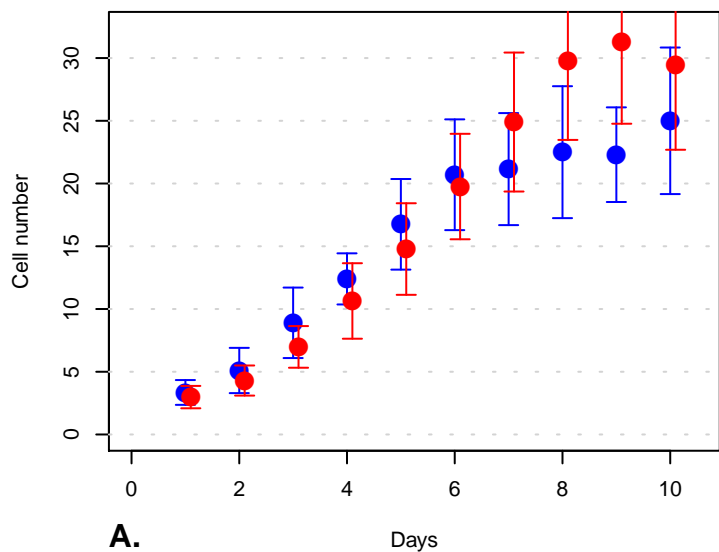
Figure S11-33) Varied polarDelay: pd = 21



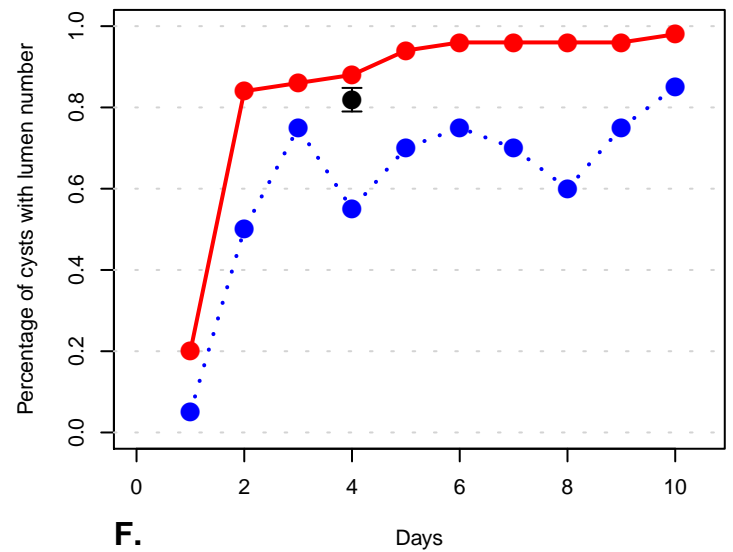
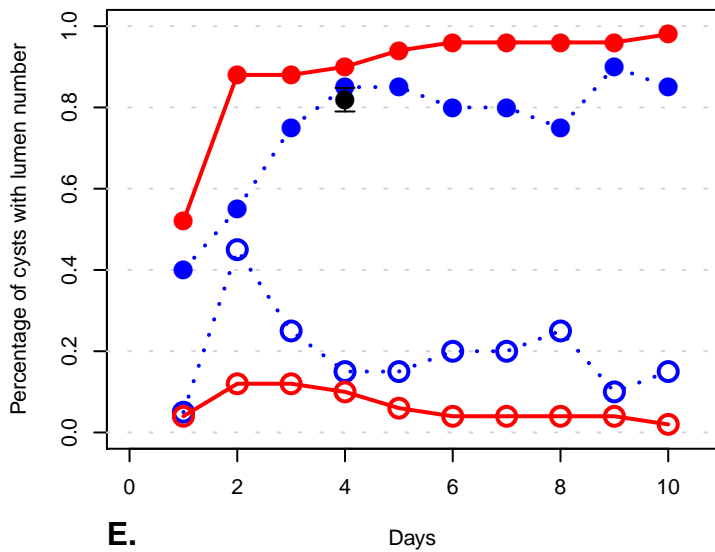
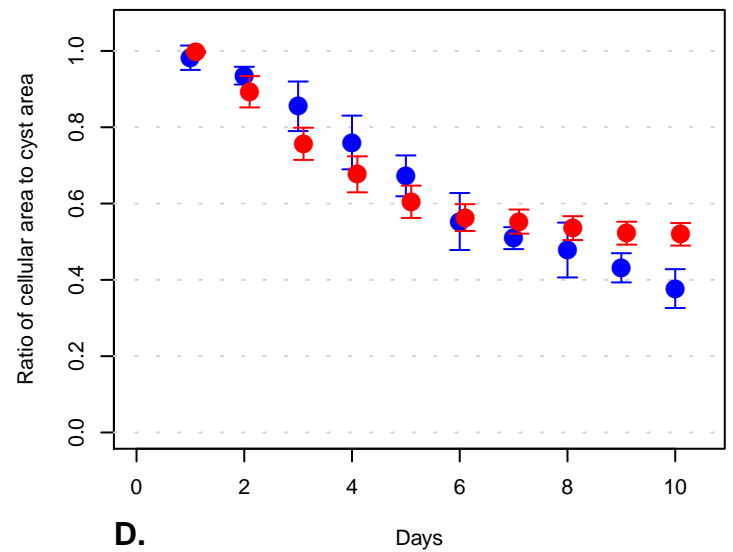
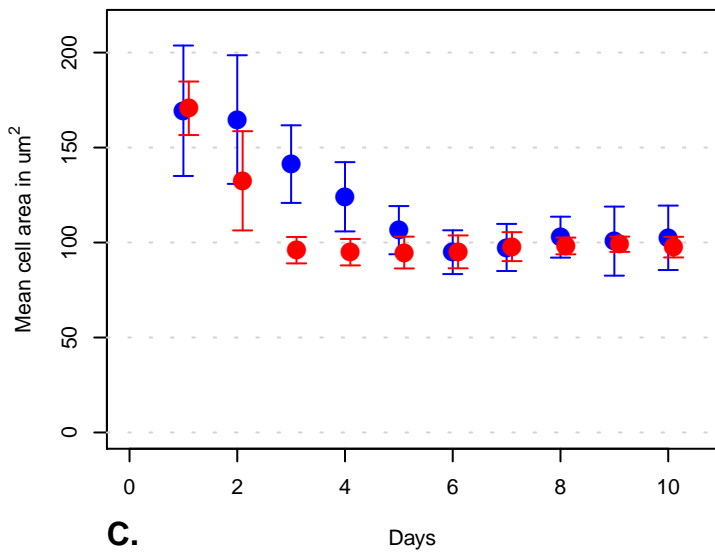
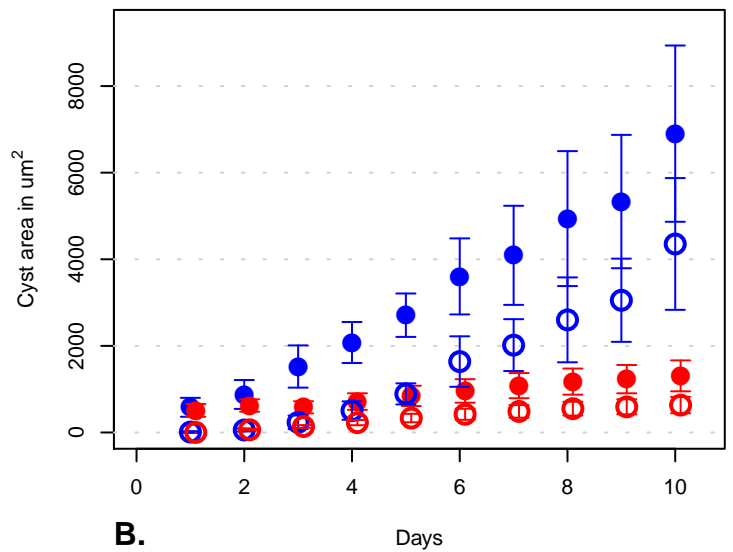
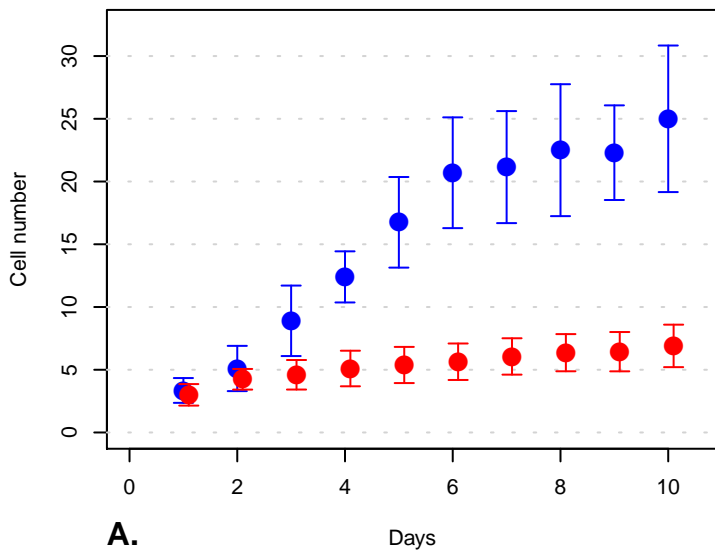
**Figure S11–34) Varied polarDelay: pd = 84**



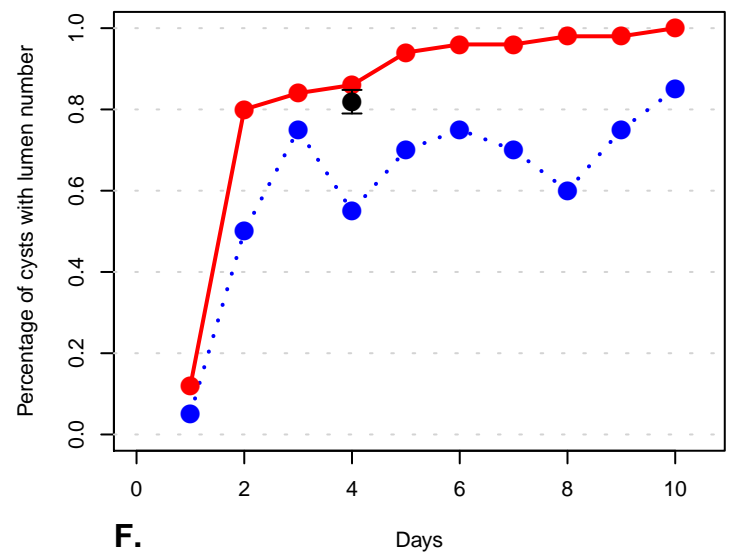
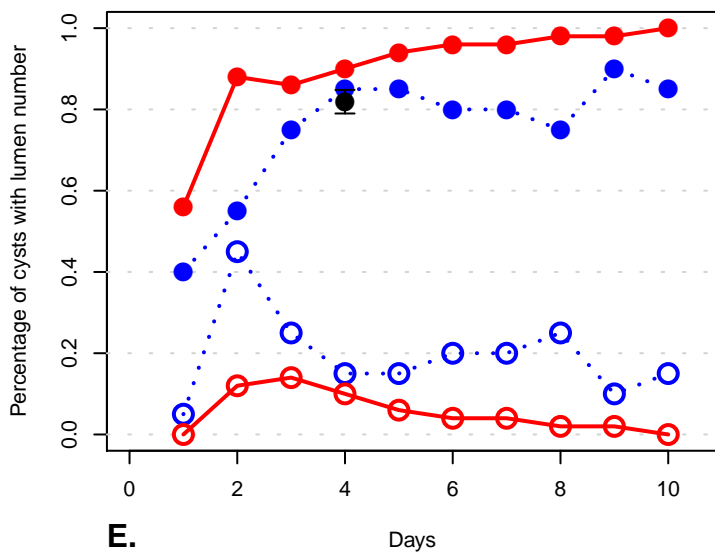
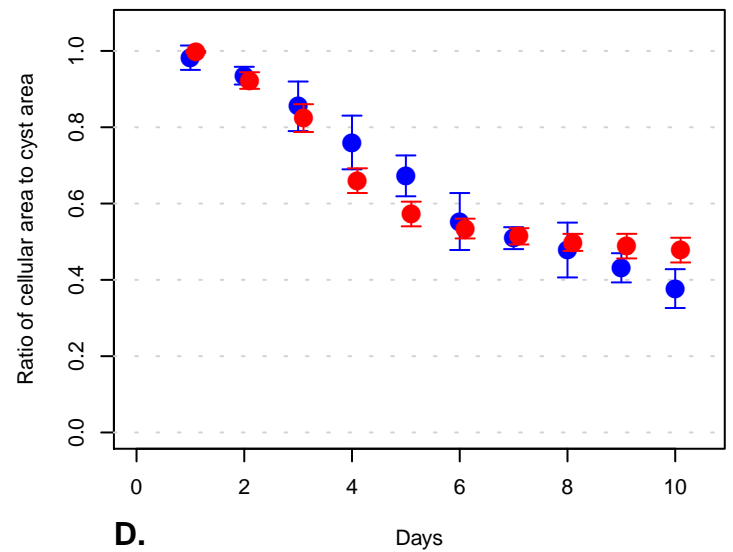
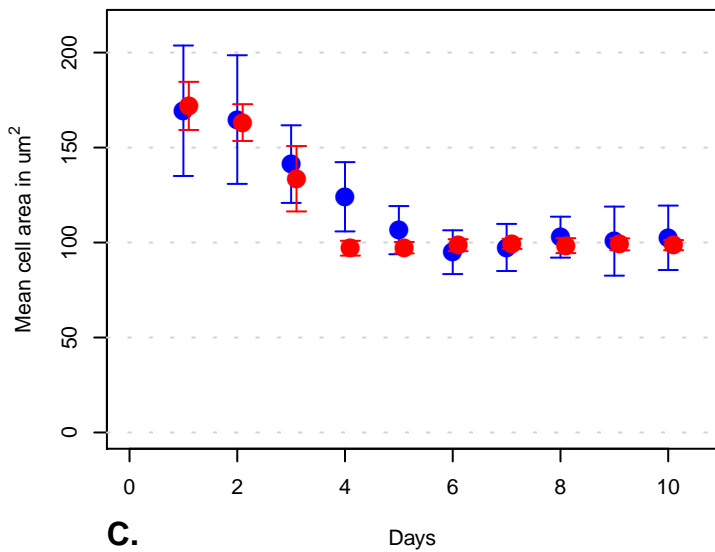
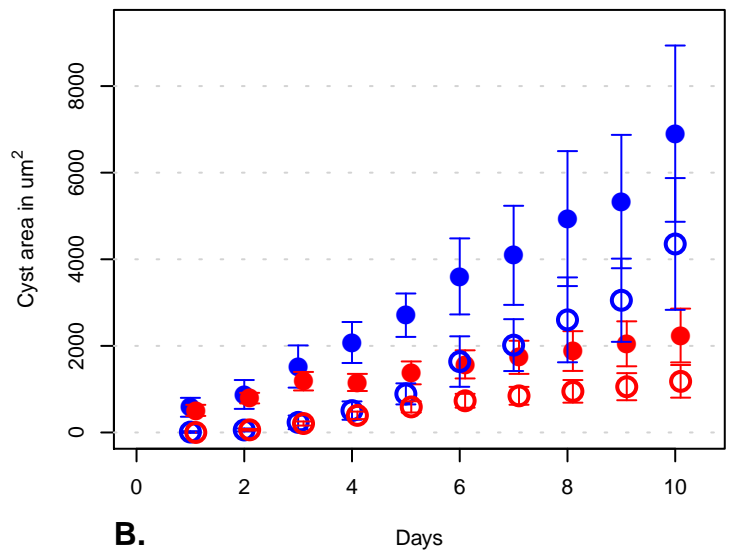
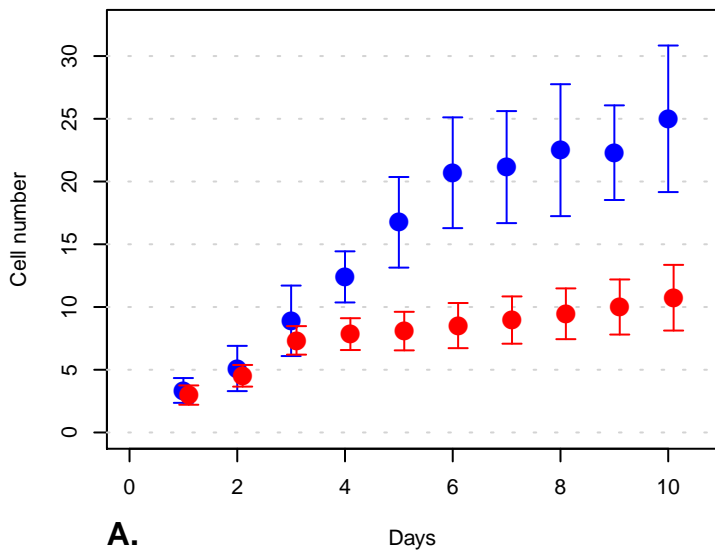
**Figure S11–35) Varied polarDelay: pd = 200**



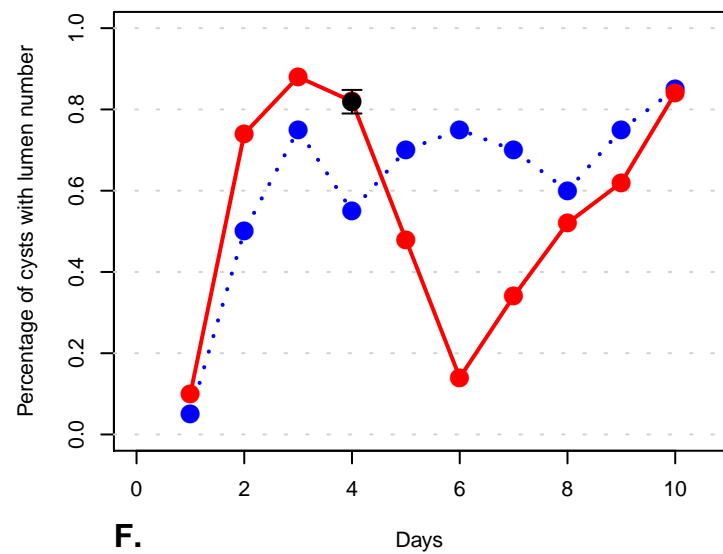
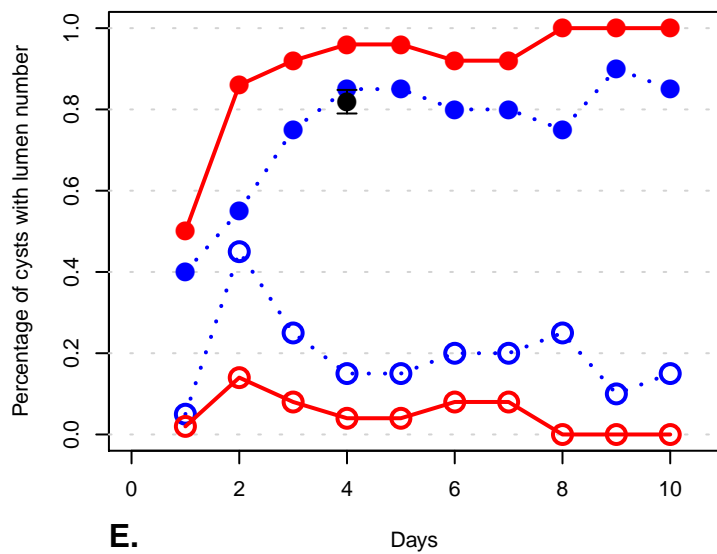
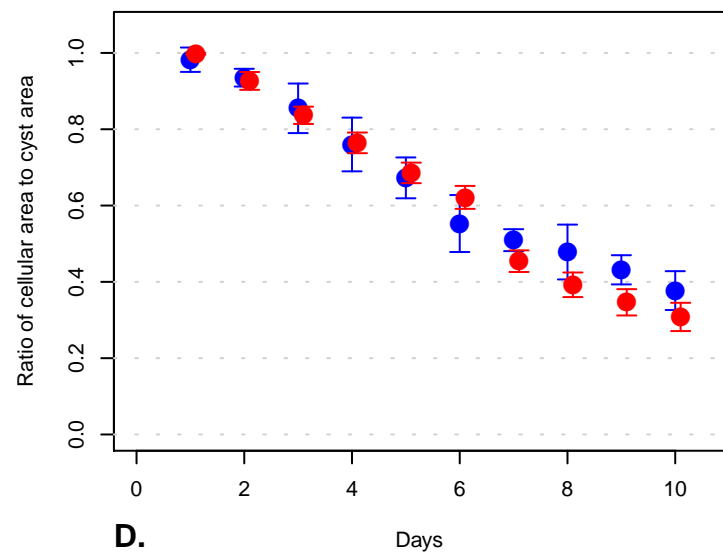
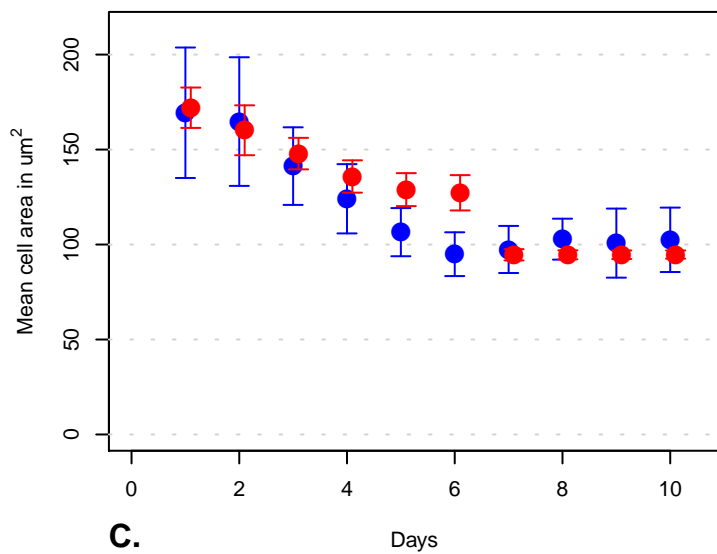
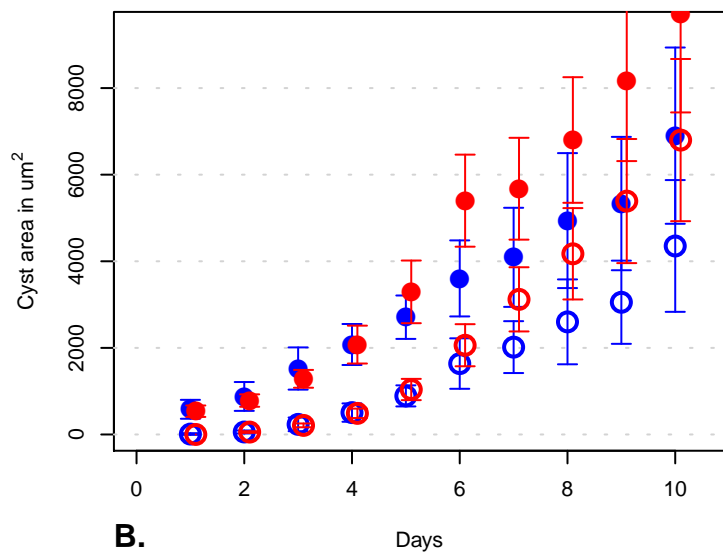
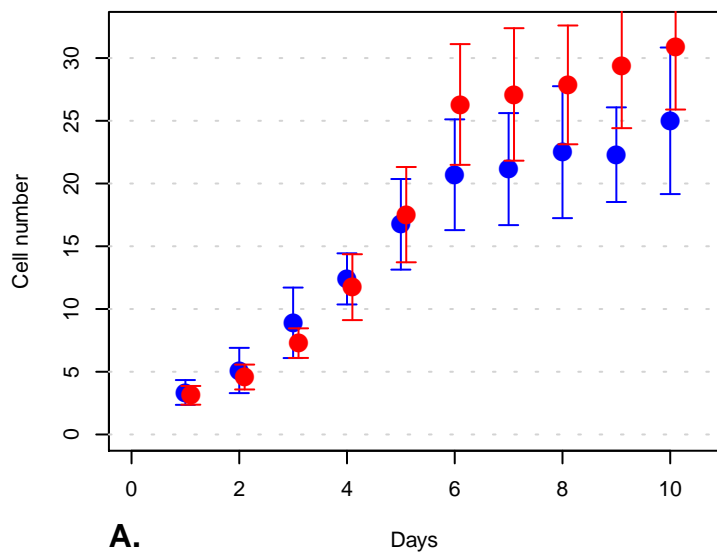
**Figure S11-36) Varied shiftDelay with stableRatio = 100000: sd = 50**



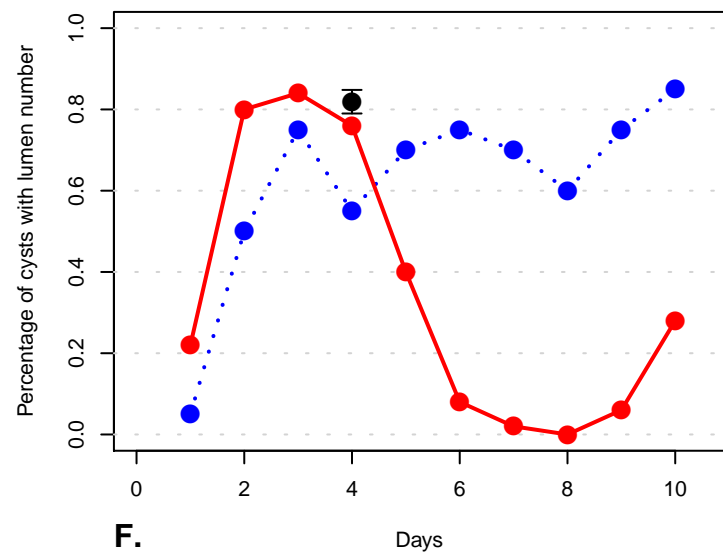
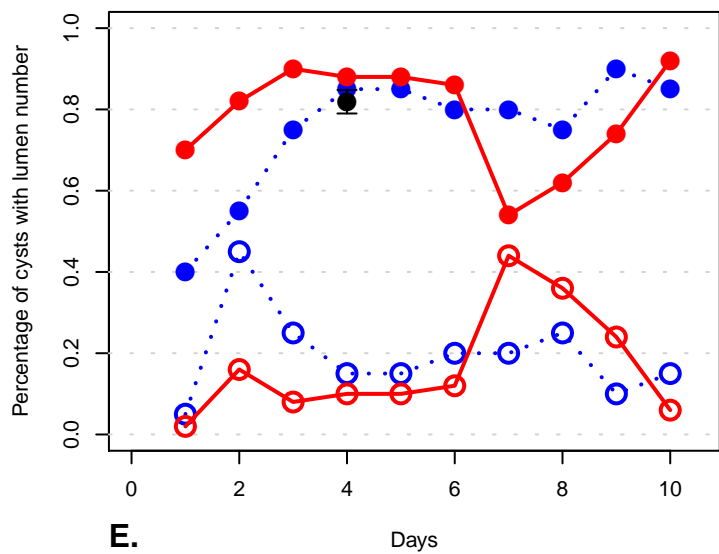
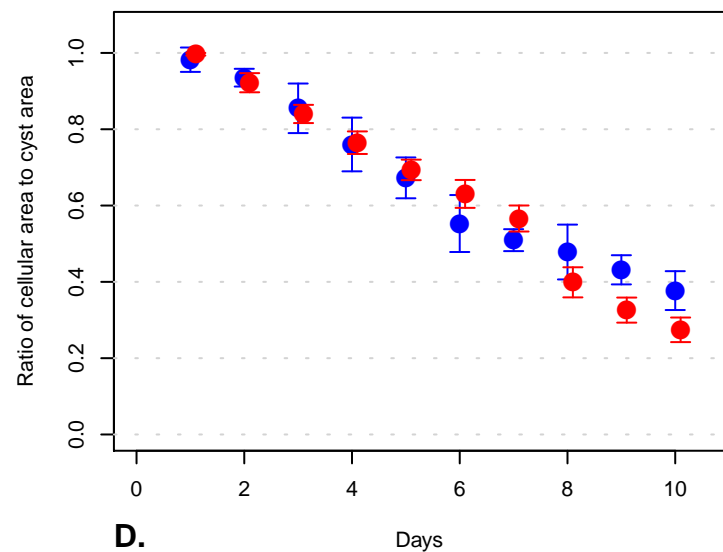
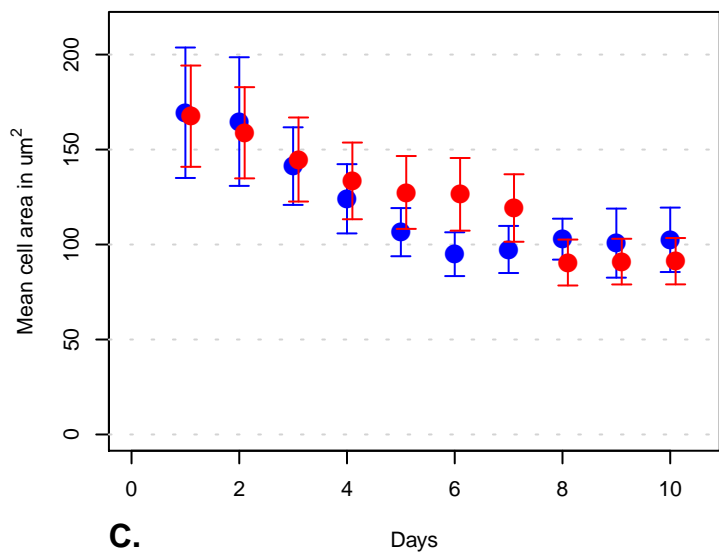
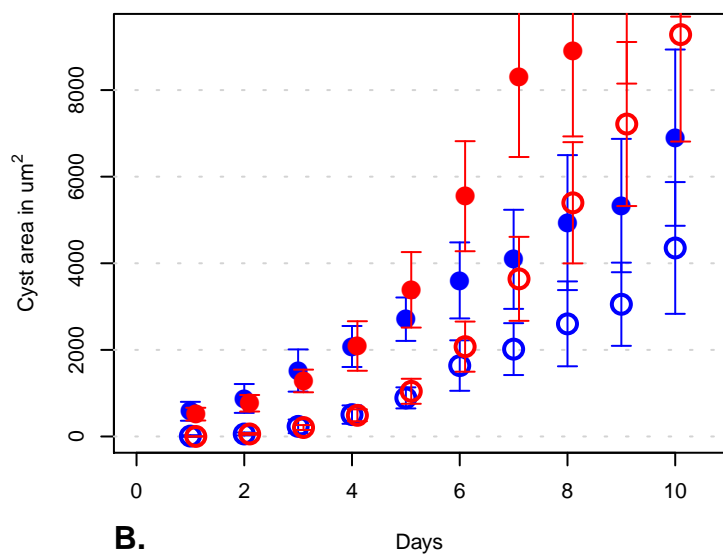
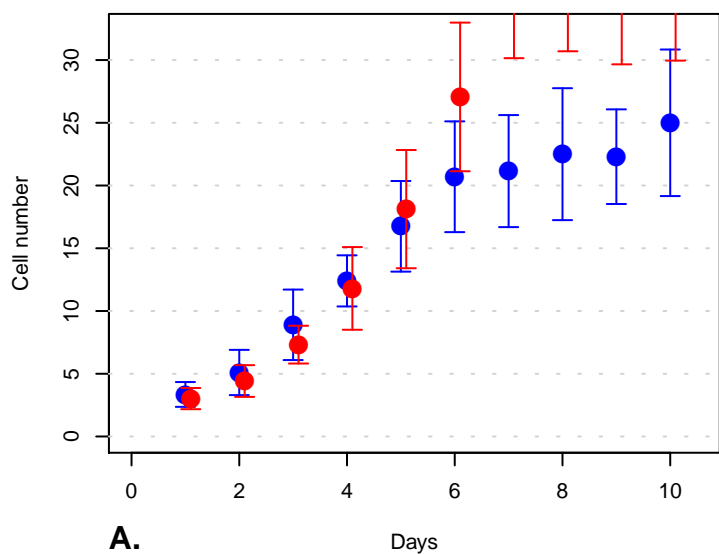
**Figure S11–37) Varied shiftDelay with stableRatio = 100000: sd = 100**



**Figure S11–38) Varied shiftDelay with stableRatio = 100000: sd = 250**



**Figure S11–39) Varied shiftDelay with stableRatio = 100000: sd = 300**



**Figure S11-40) Varied IgrSubtract: Igrs = 14**

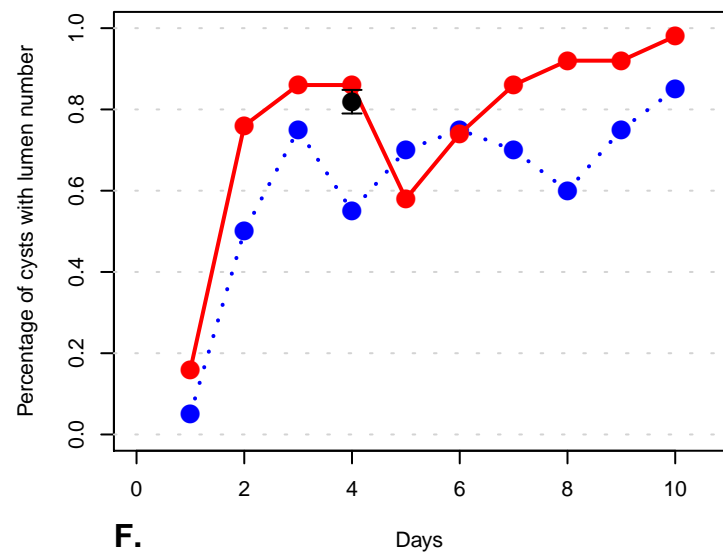
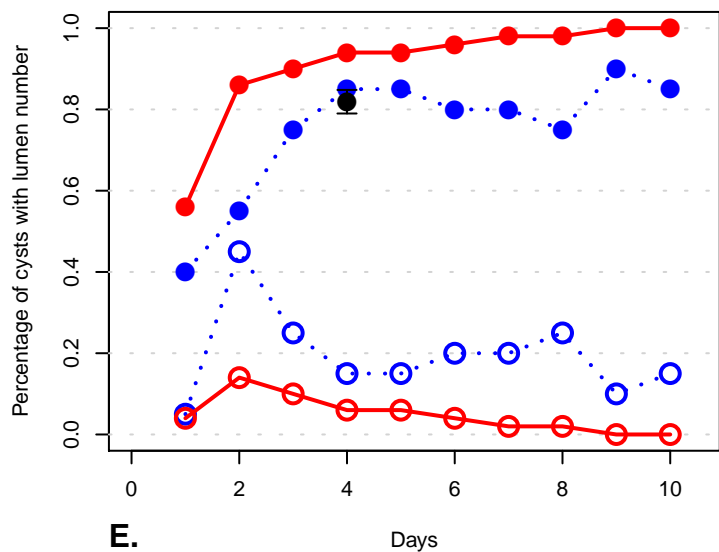
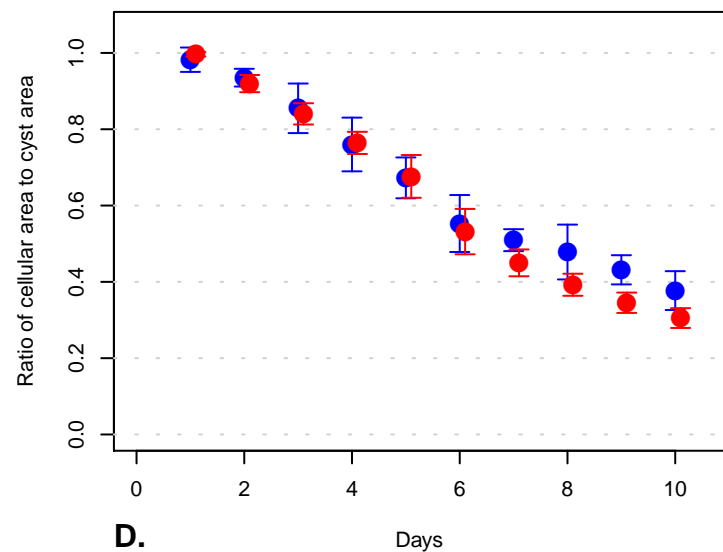
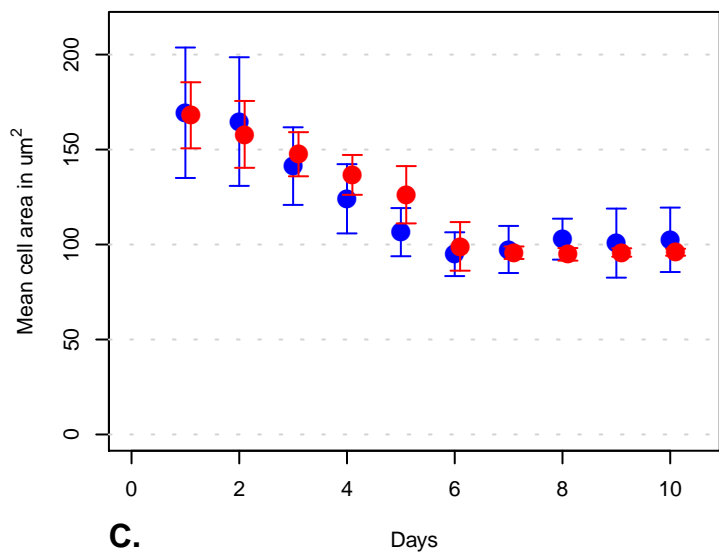
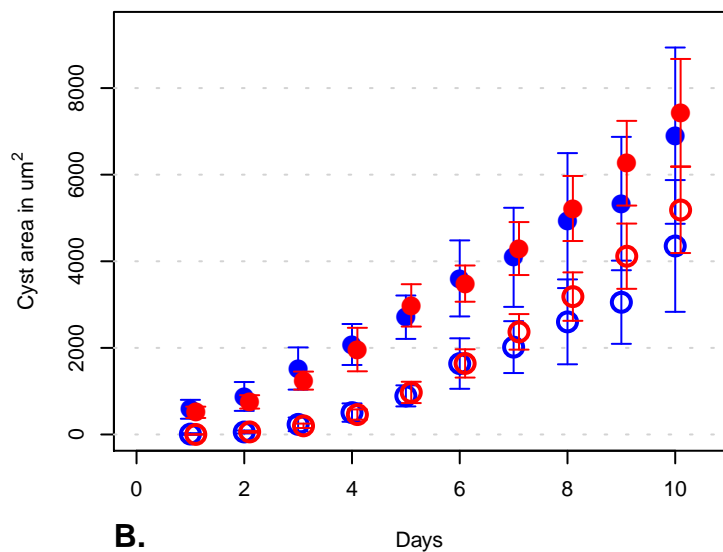
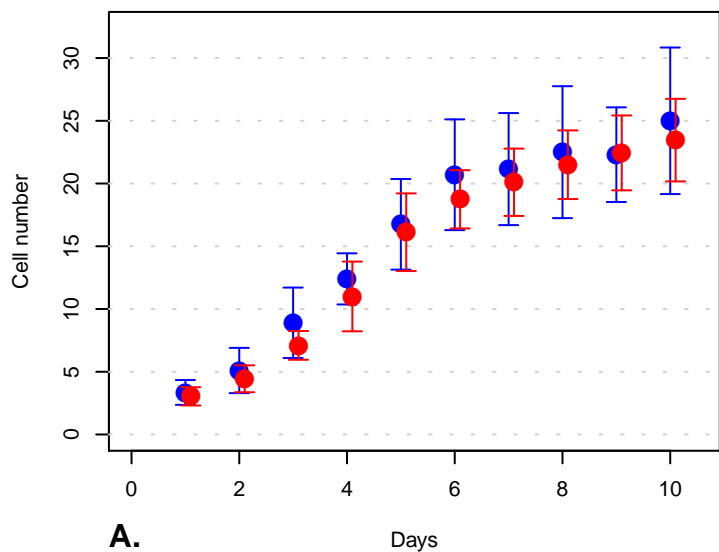




Figure S11-41) Varied IgrSubtract: Igrs = 20

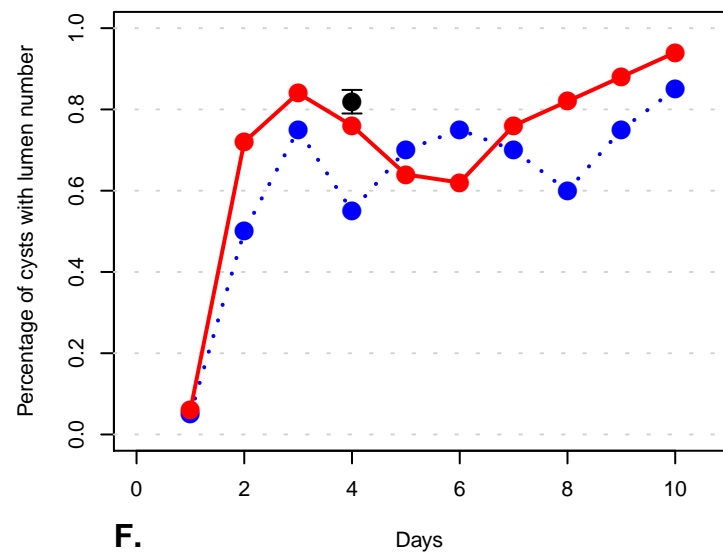
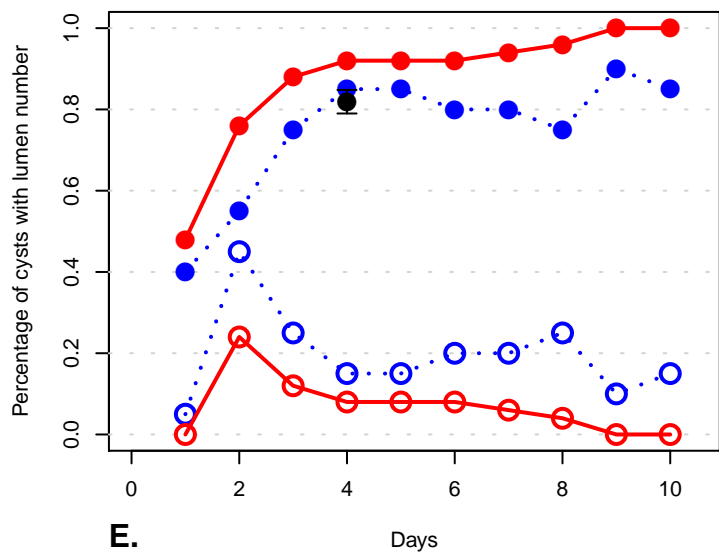
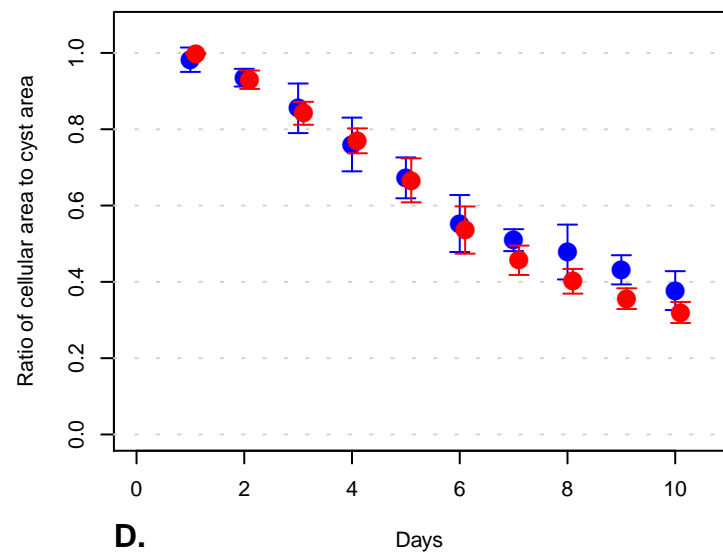
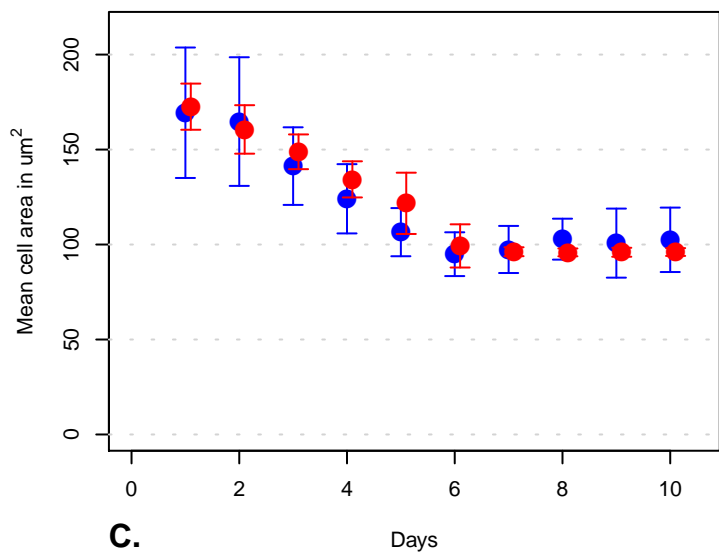
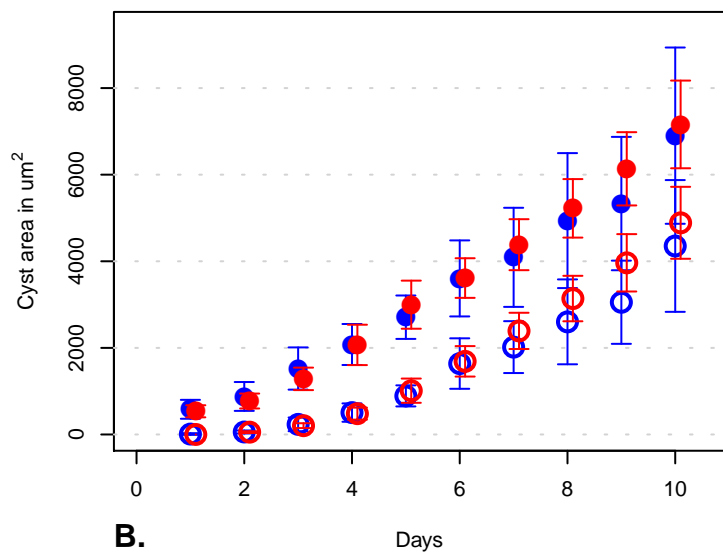
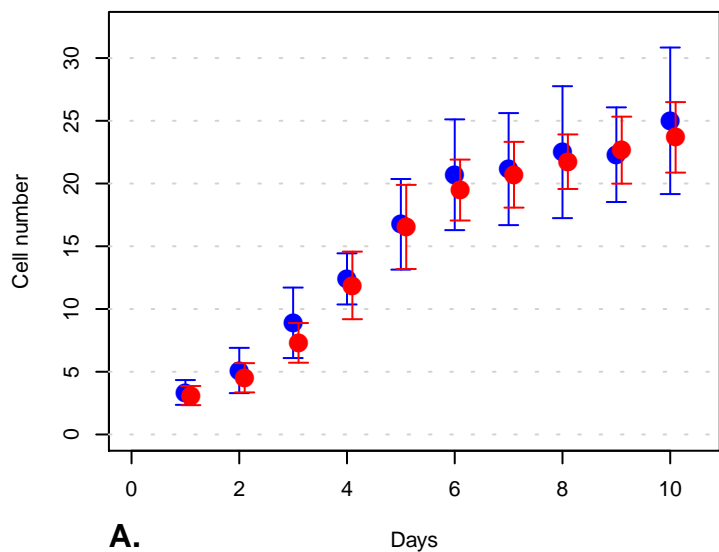
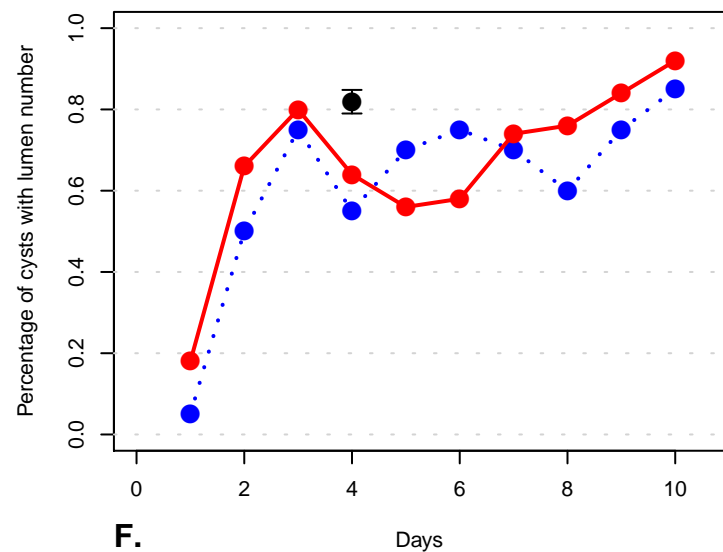
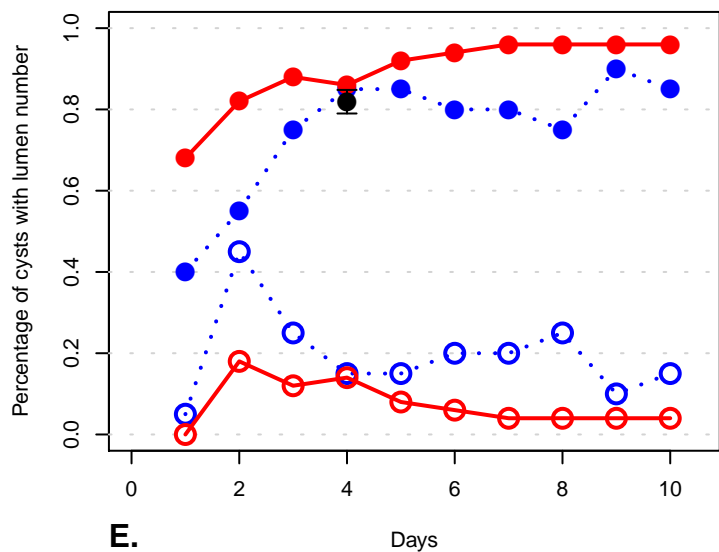
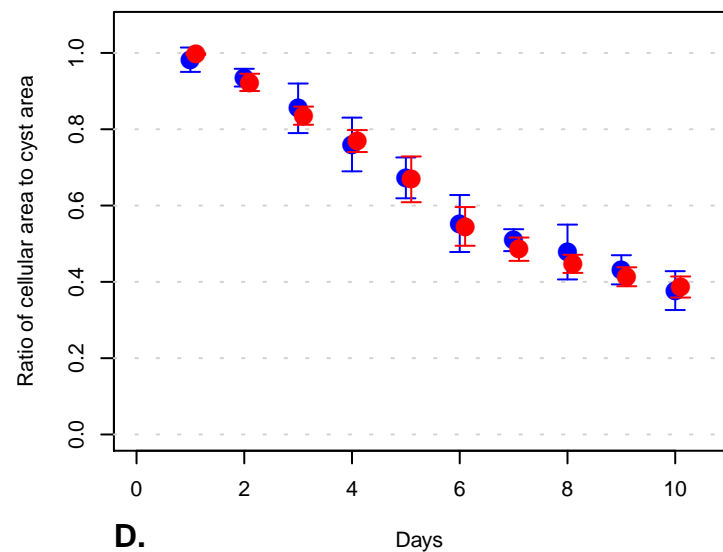
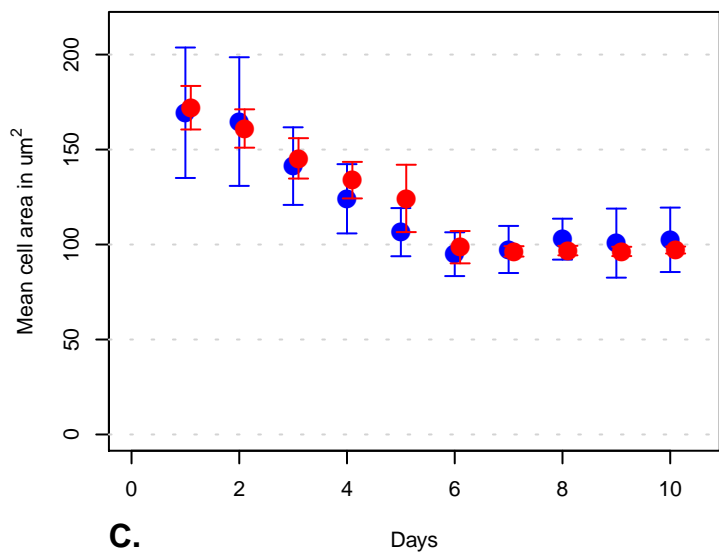
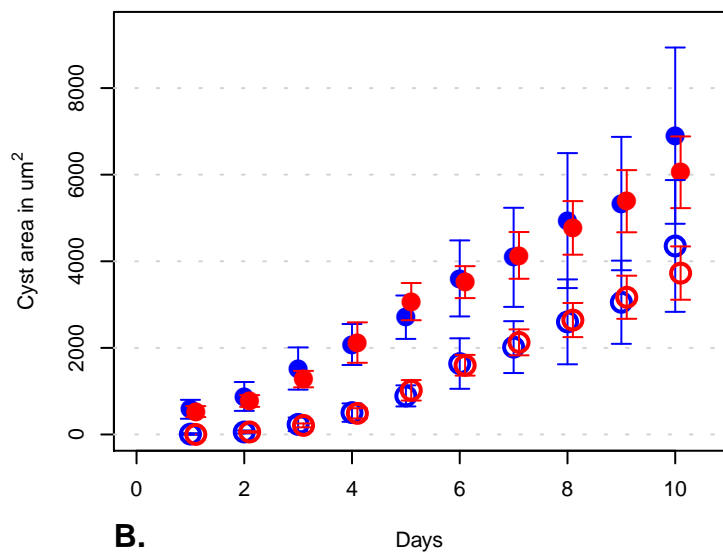
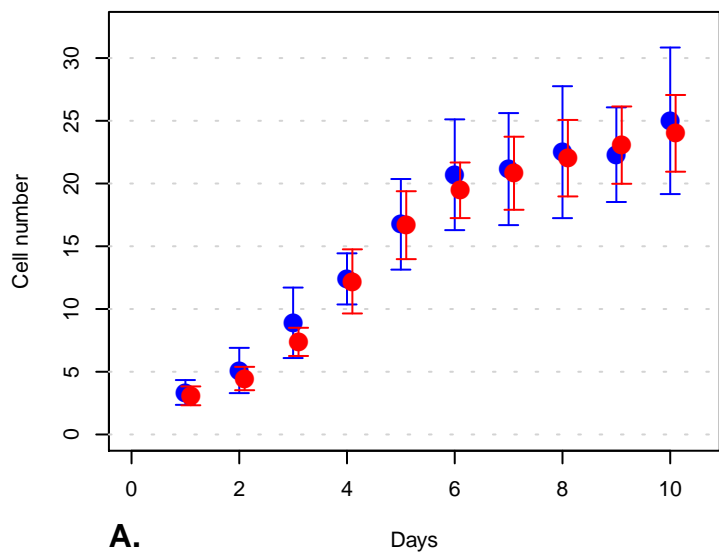
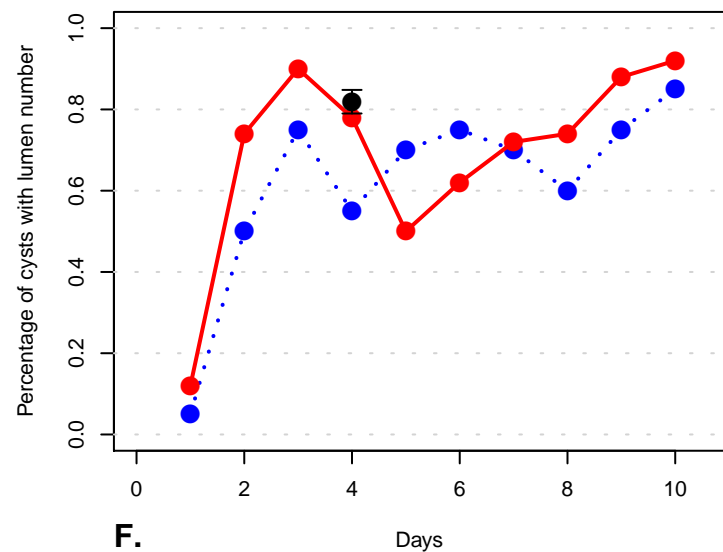
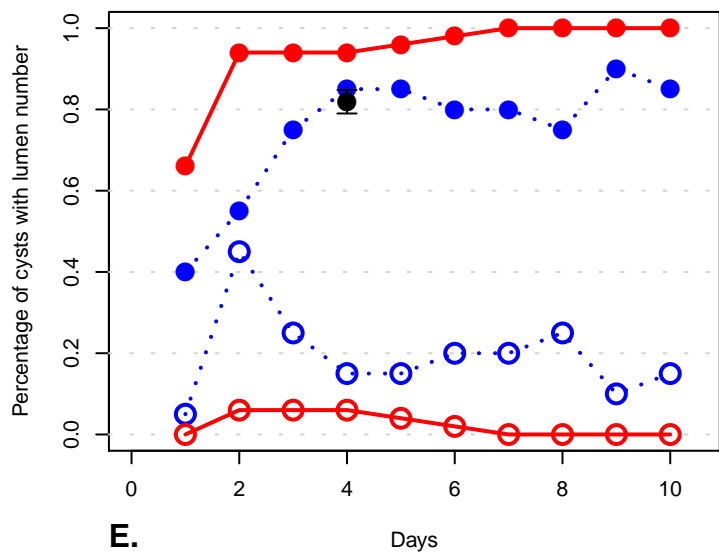
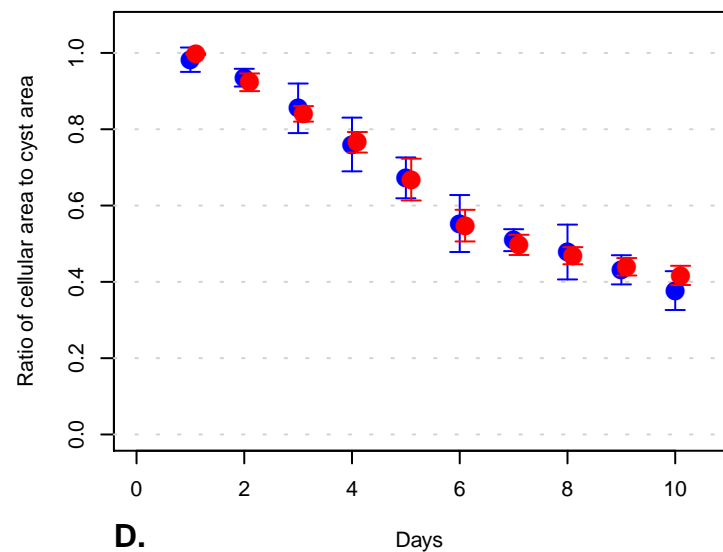
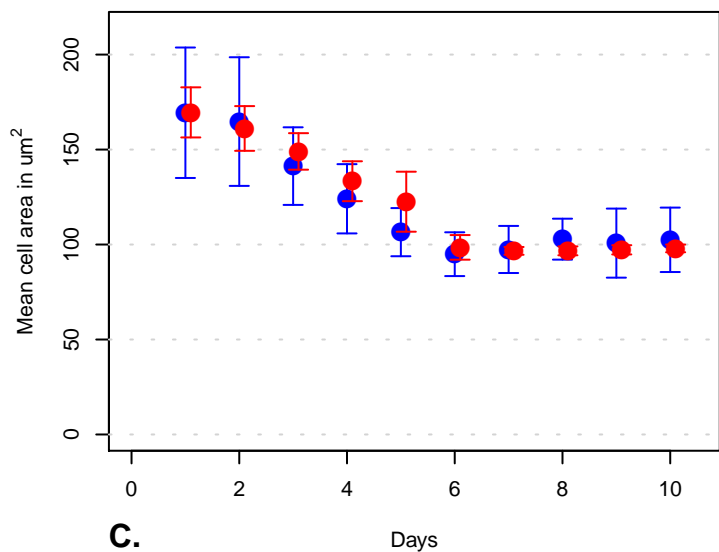
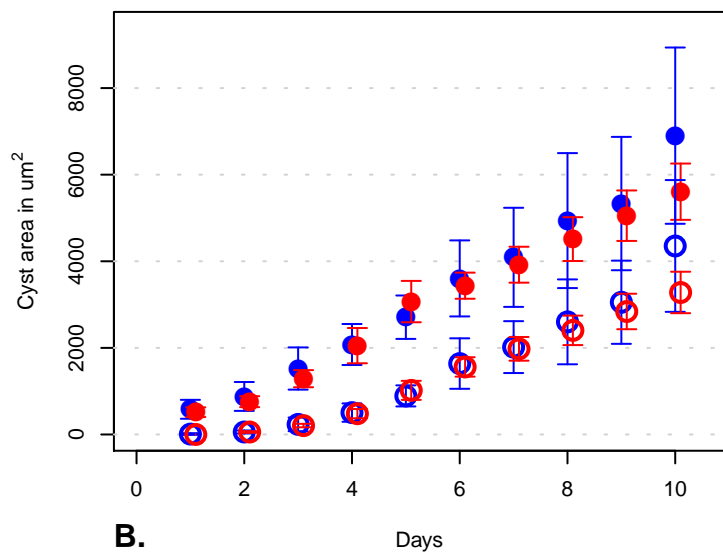
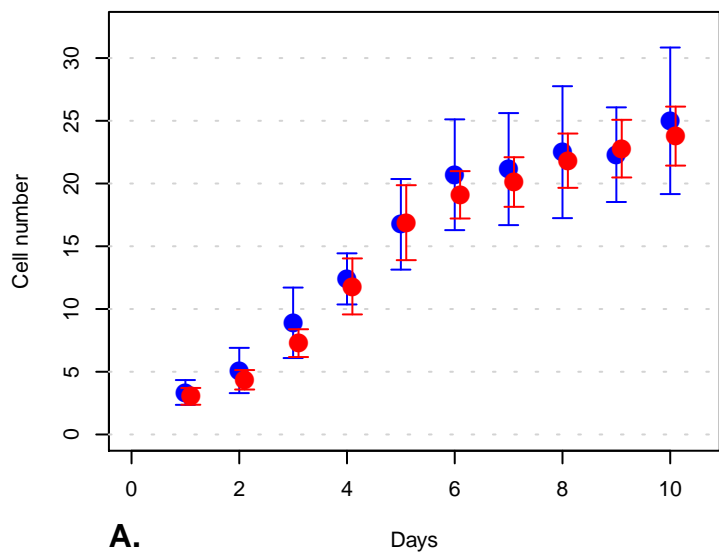


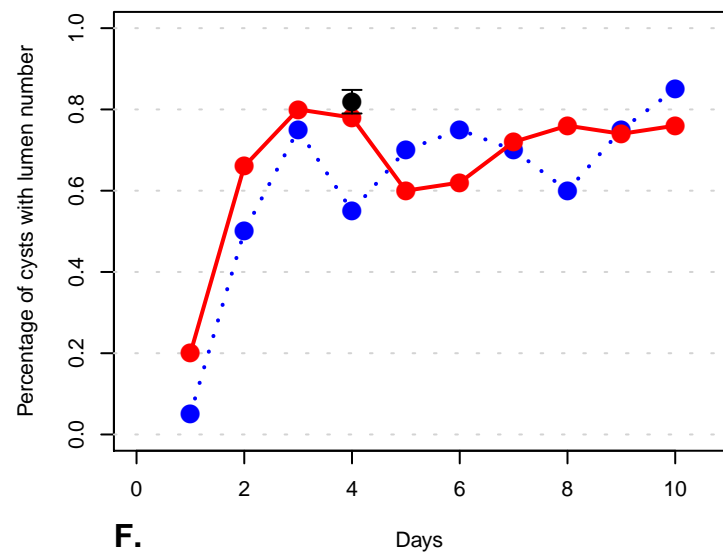
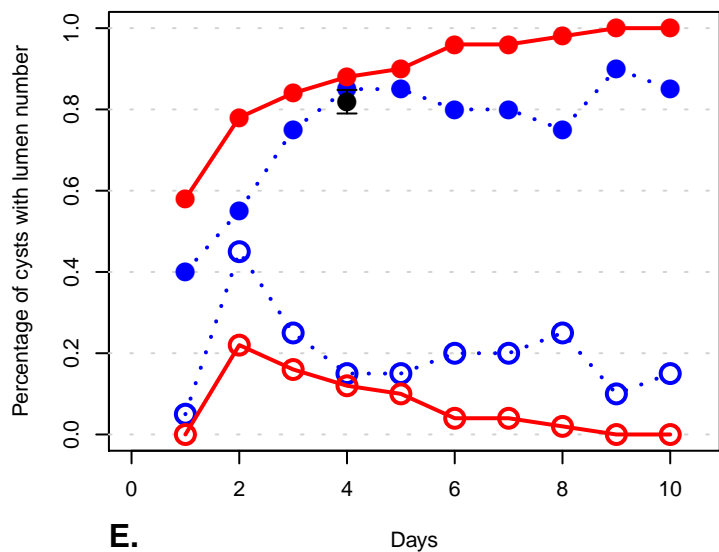
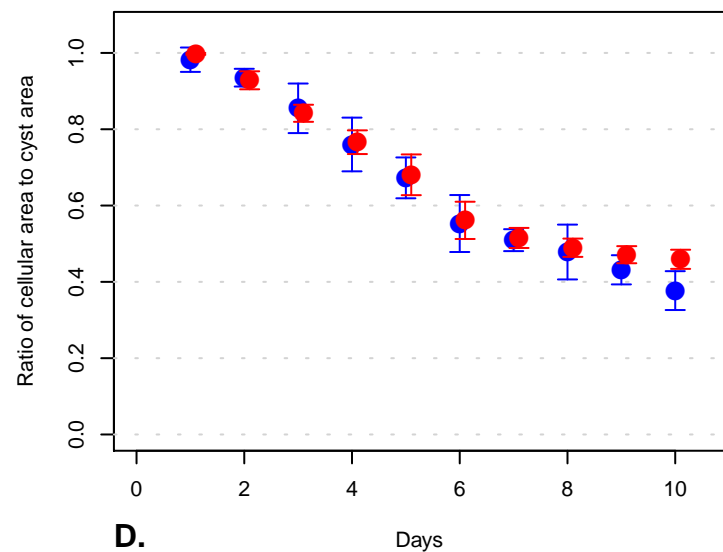
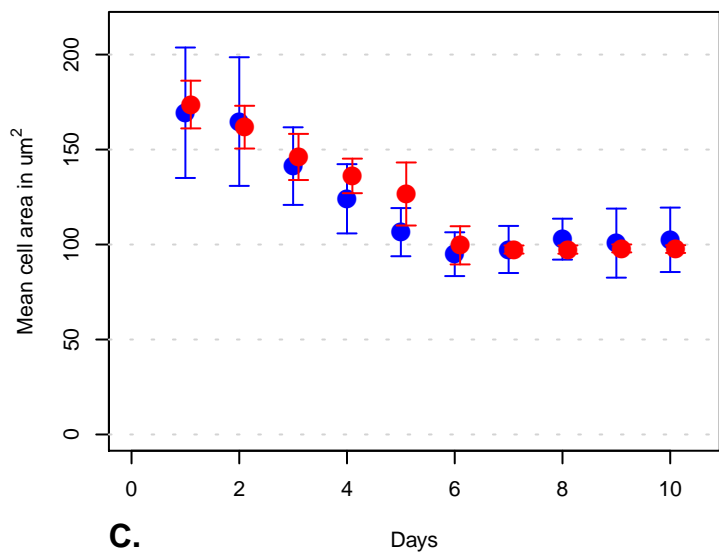
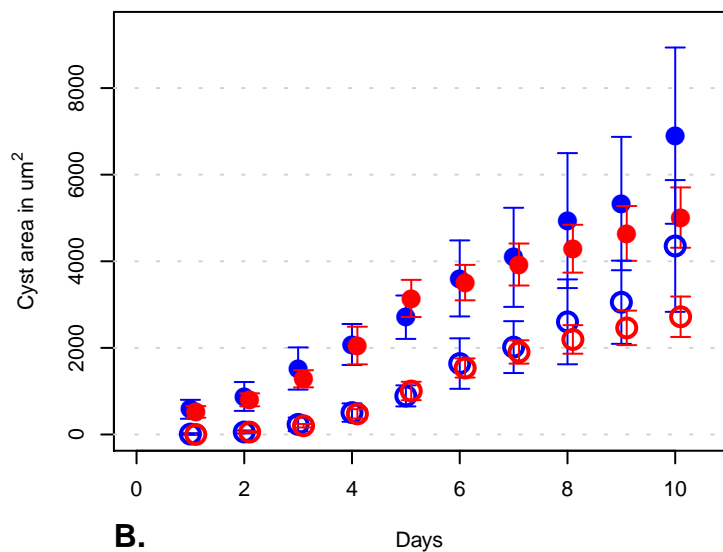
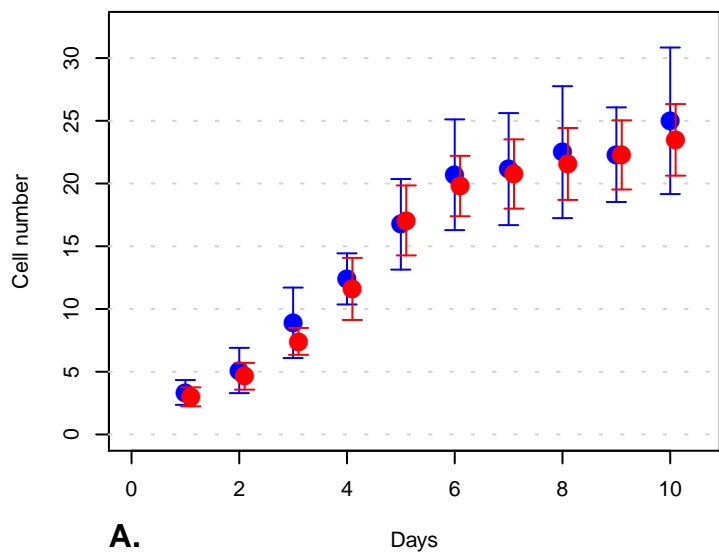
Figure S11-42) Varied IgrSubtract: Igrs = 40



**Figure S11-43) Varied IgrSubtract: Igrs = 54**



**Figure S11-44) Varied IgrSubtract: Igrs = 75**



**Figure S11-45) Varied doublingArea: da = 20**

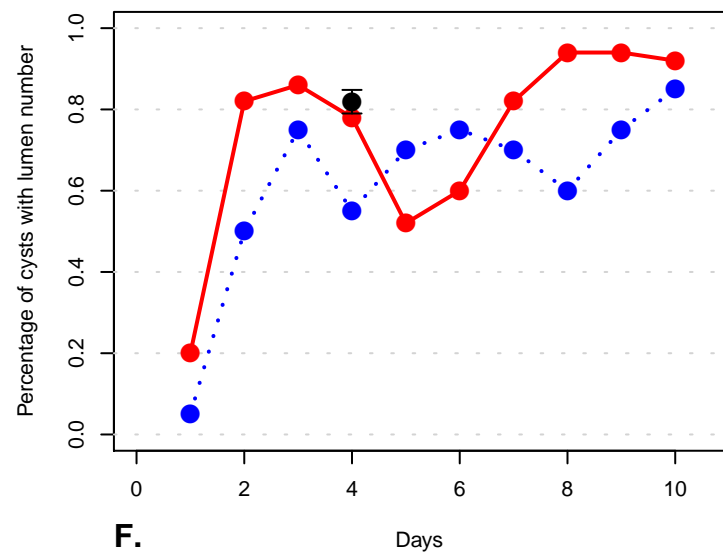
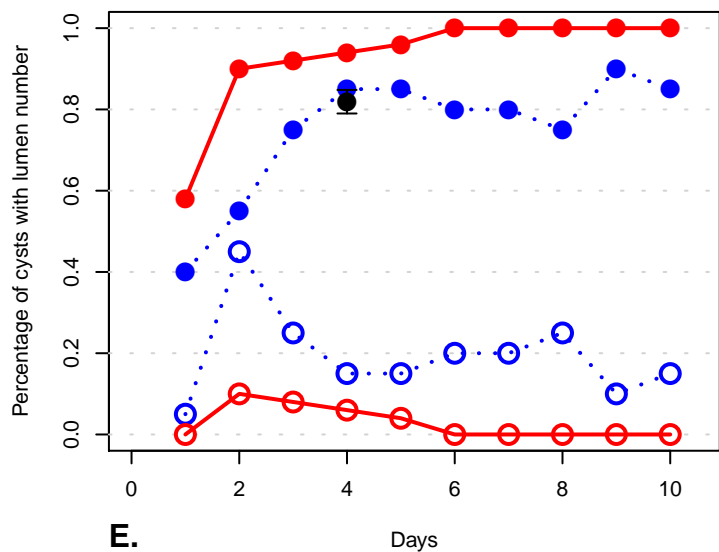
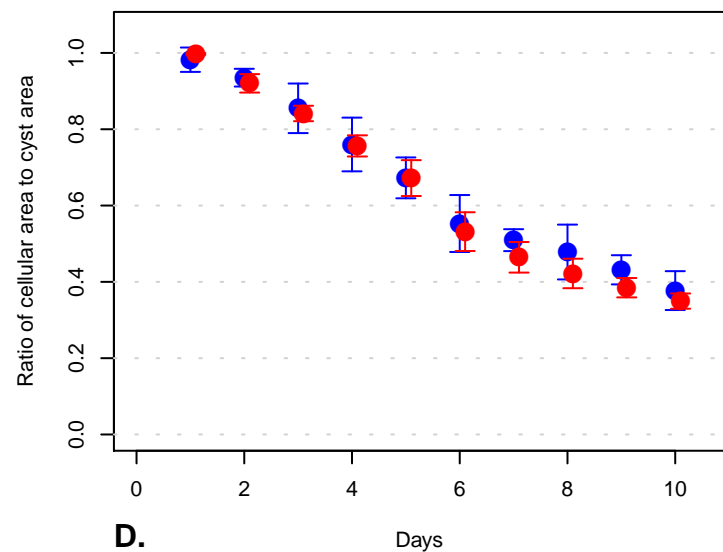
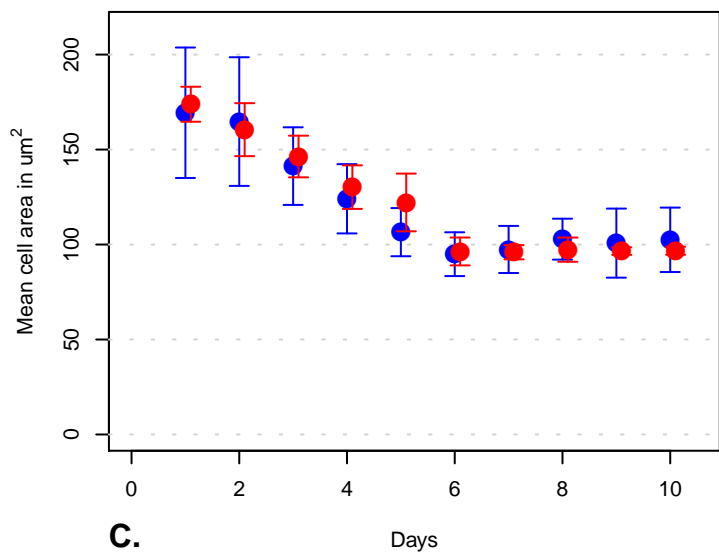
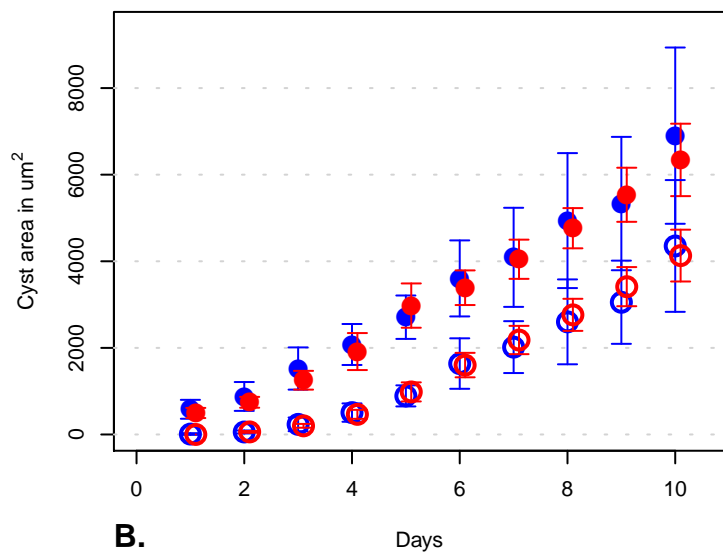
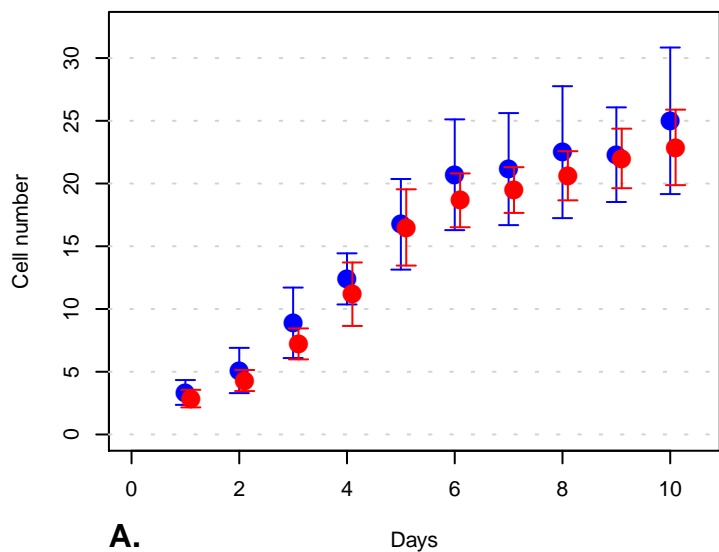
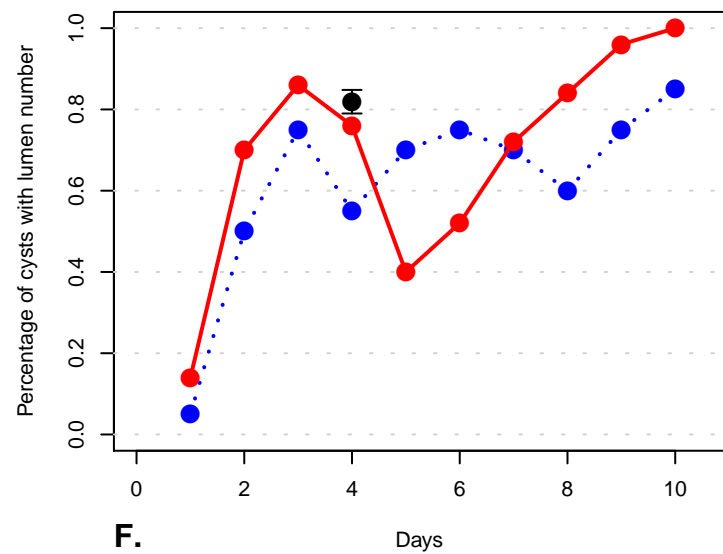
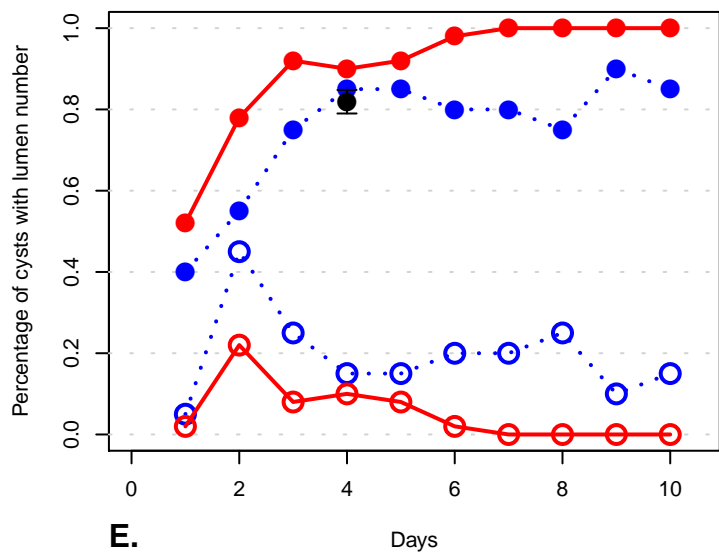
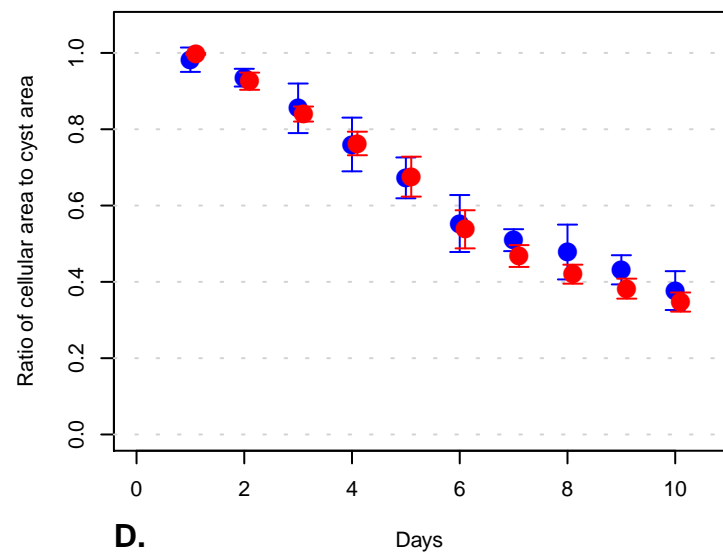
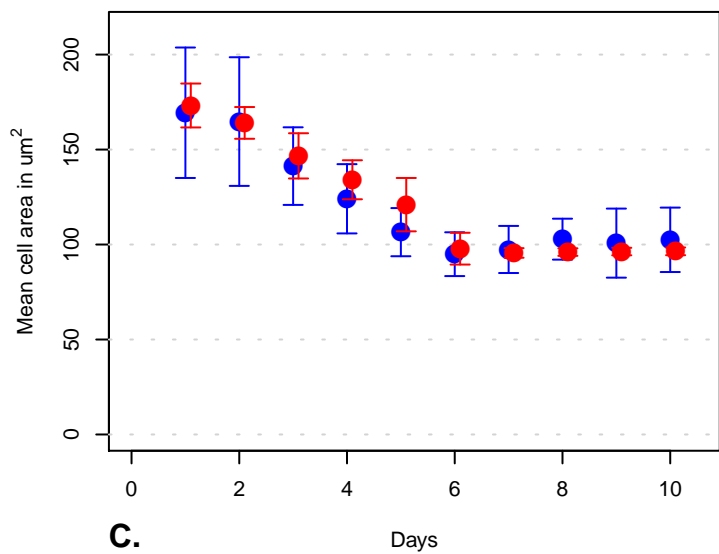
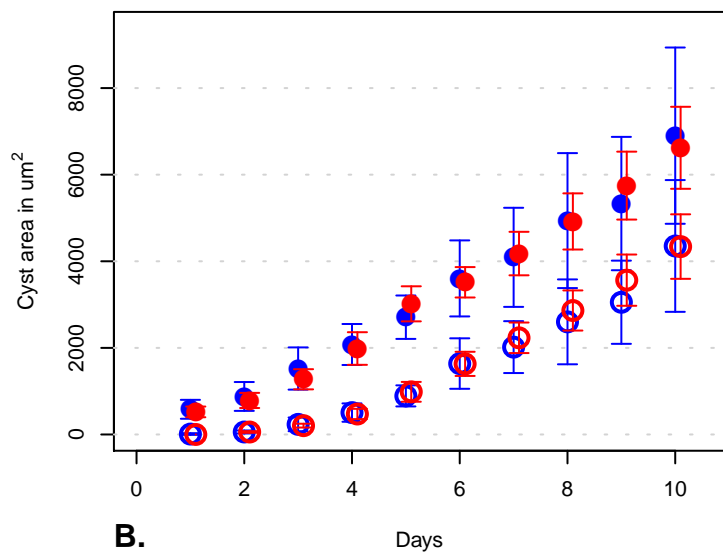
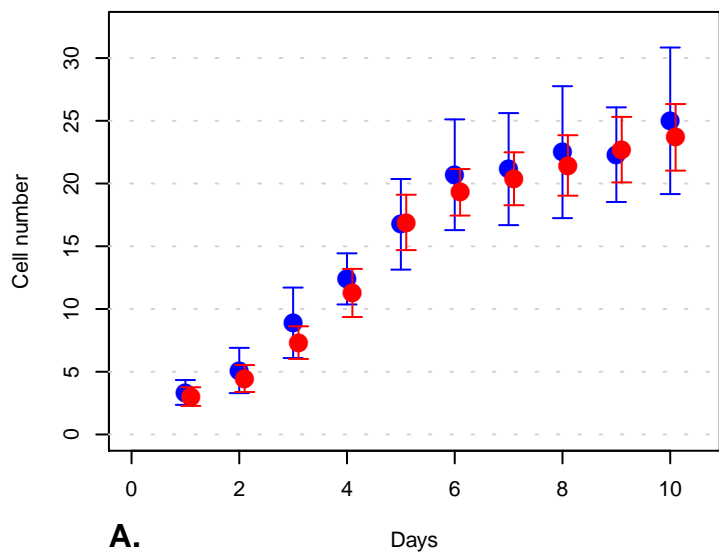
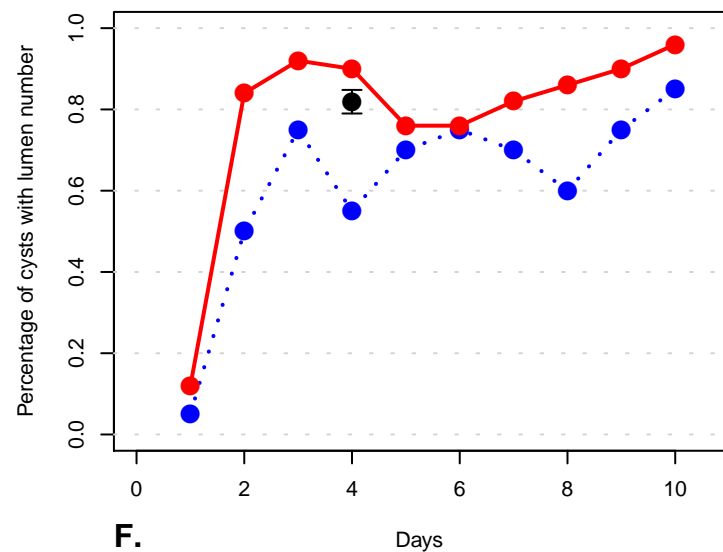
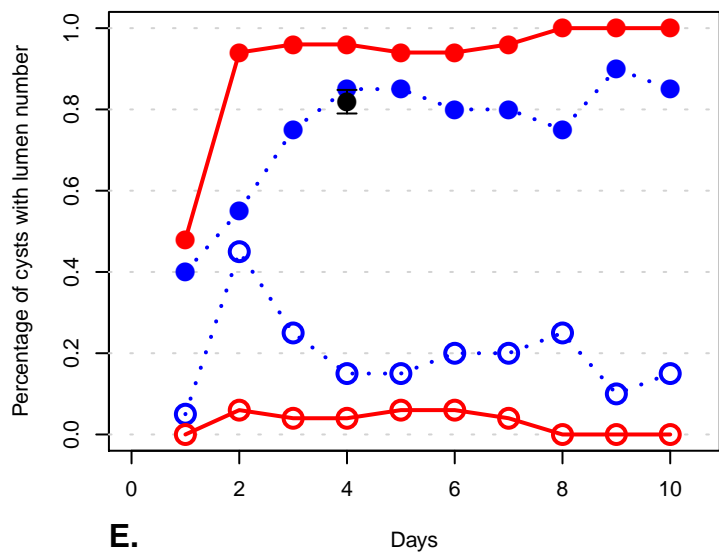
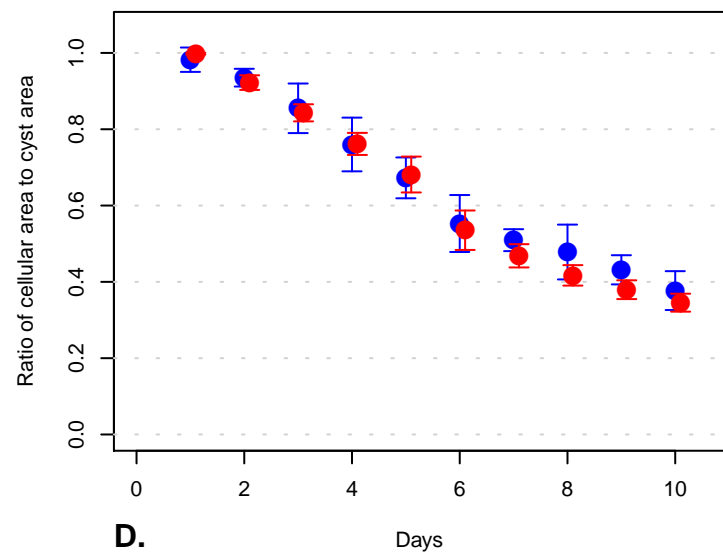
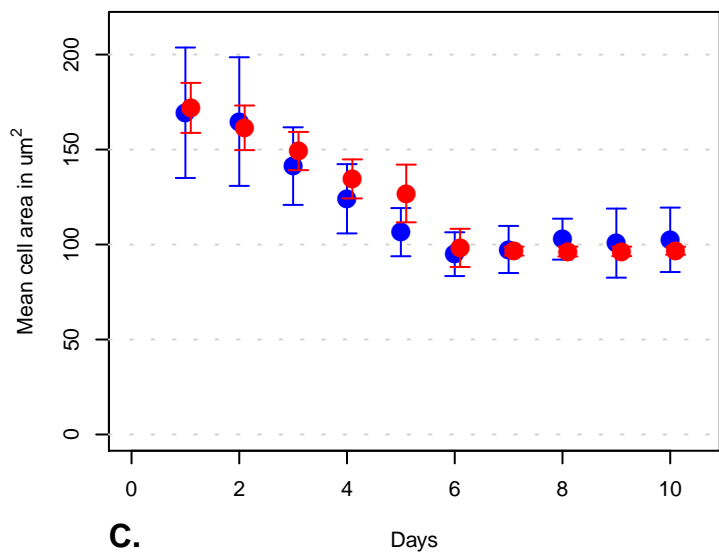
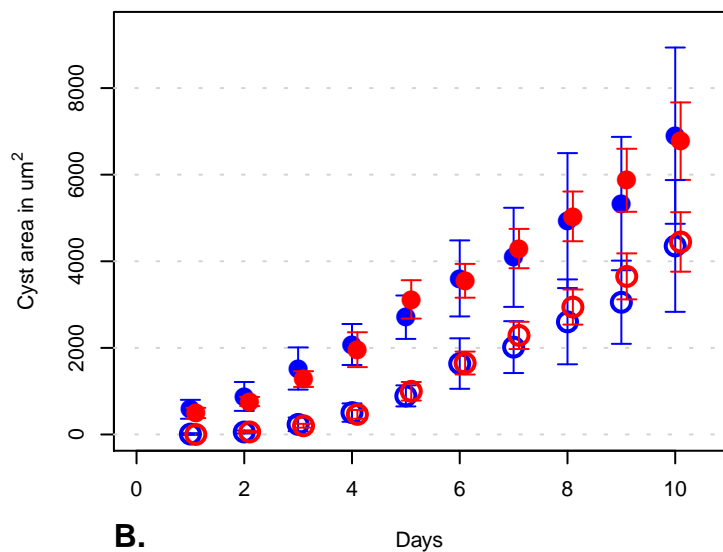
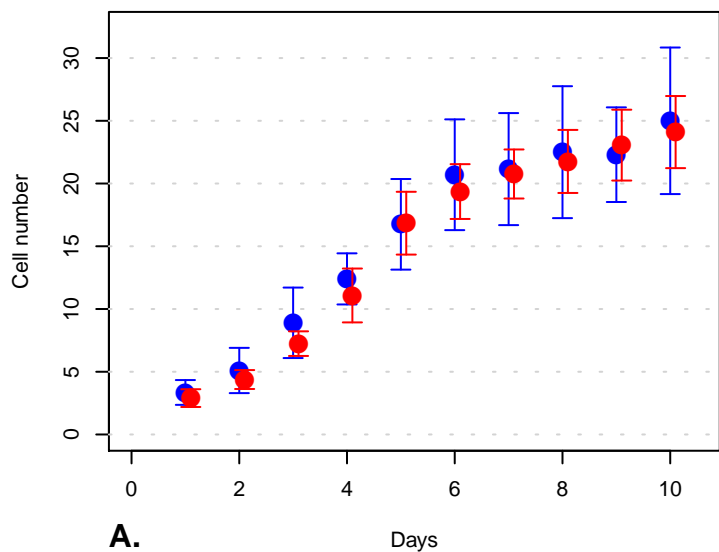


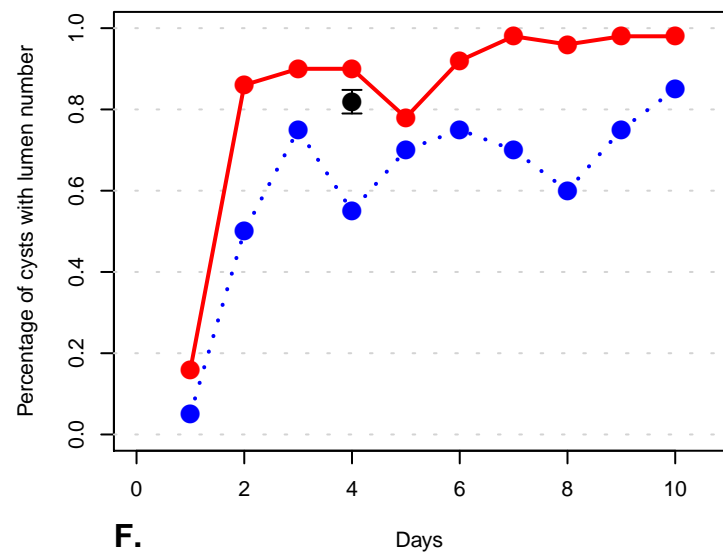
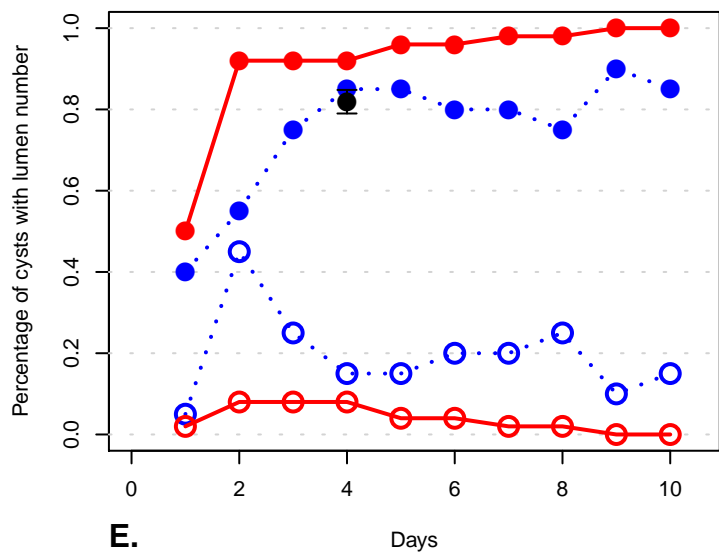
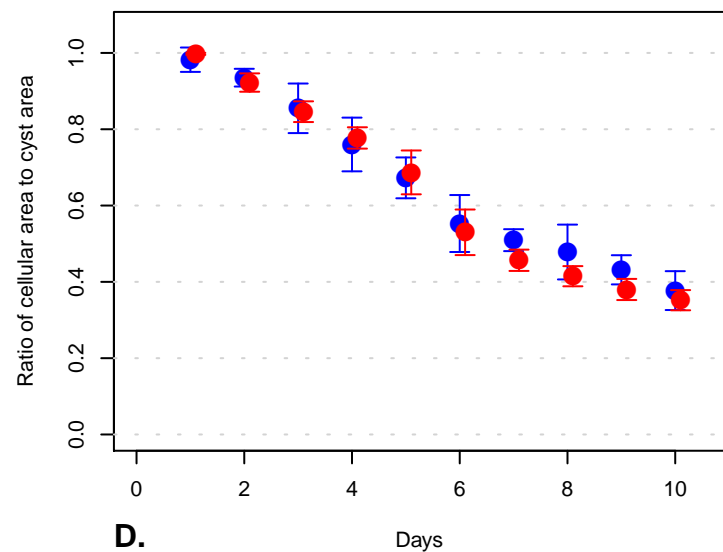
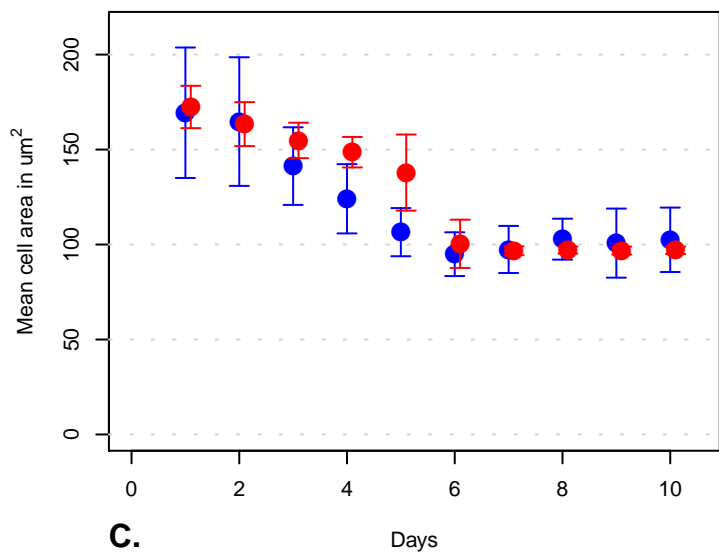
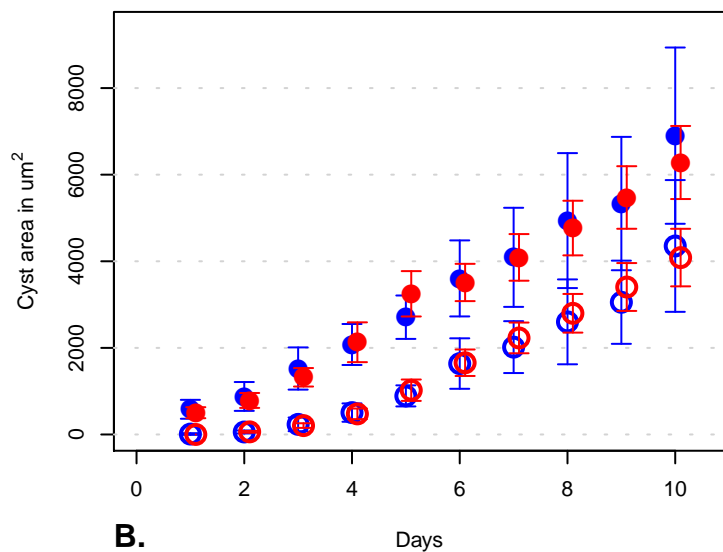
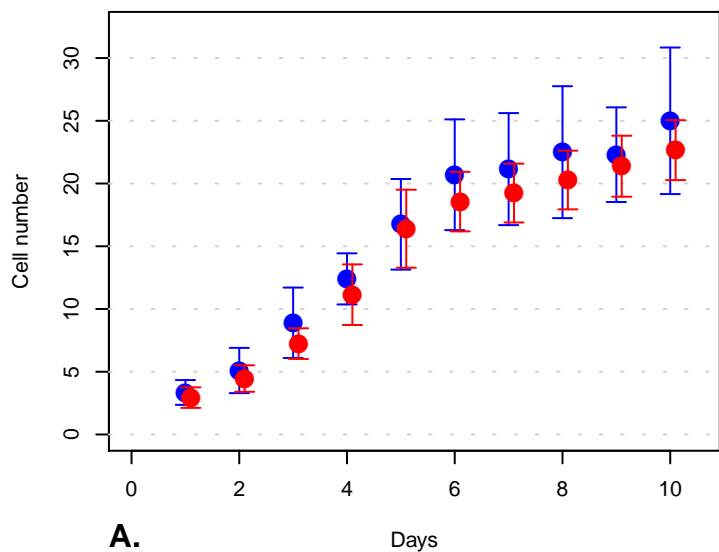
Figure S11-46) Varied doublingArea: da = 30



**Figure S11-47) Varied doublingArea: da = 50**

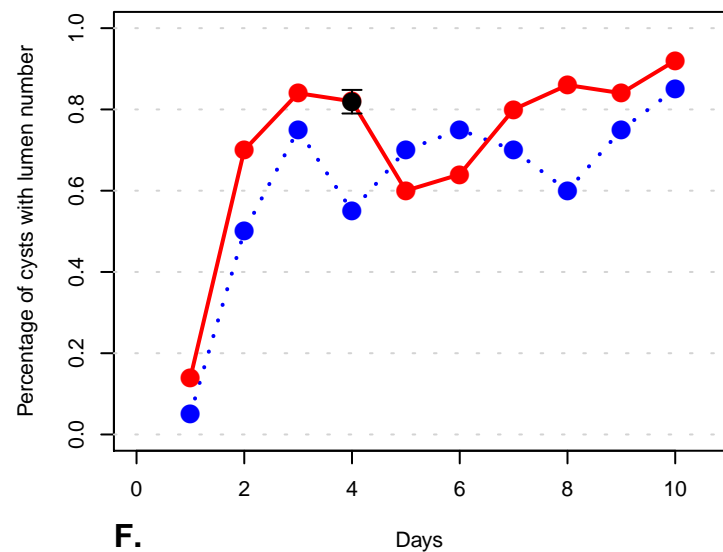
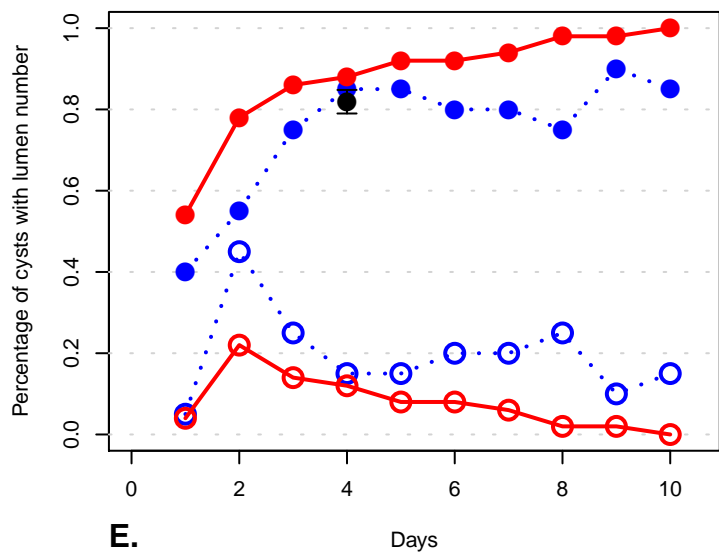
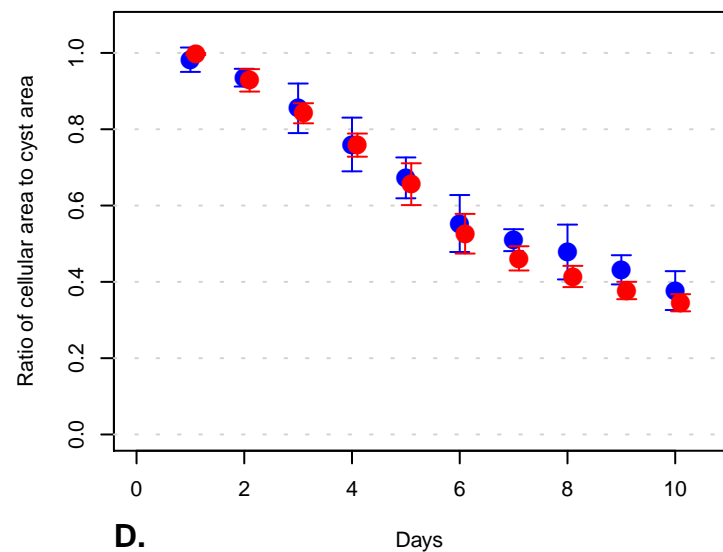
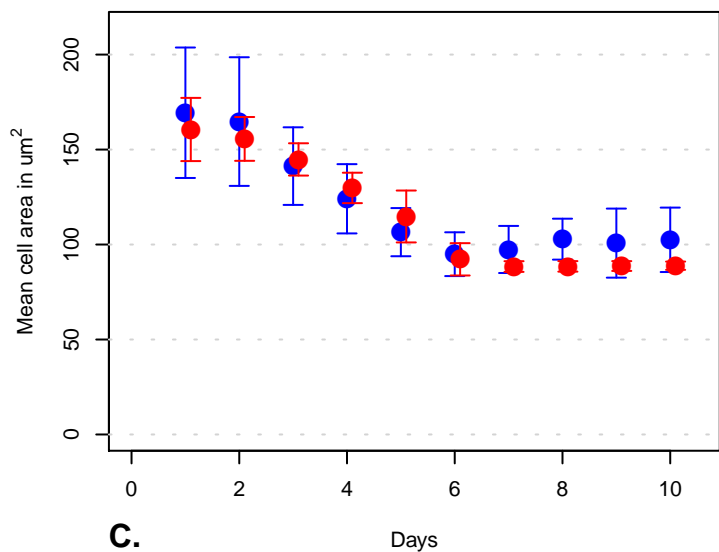
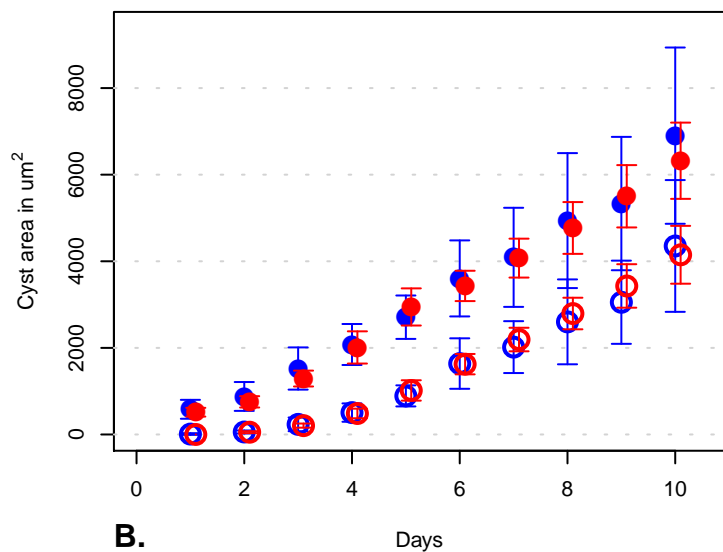
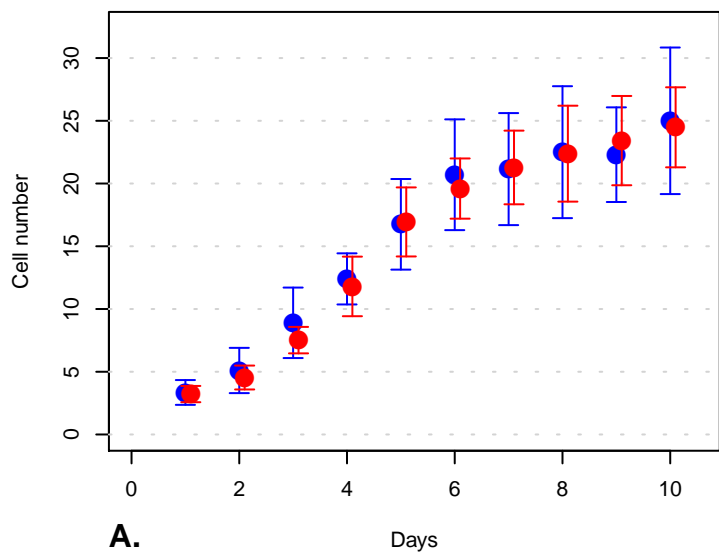


**Figure S11-48) Varied doublingArea: da = 80**

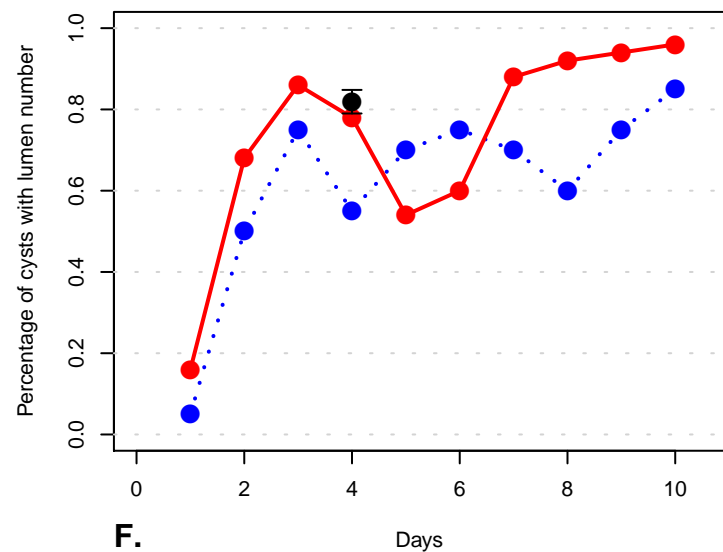
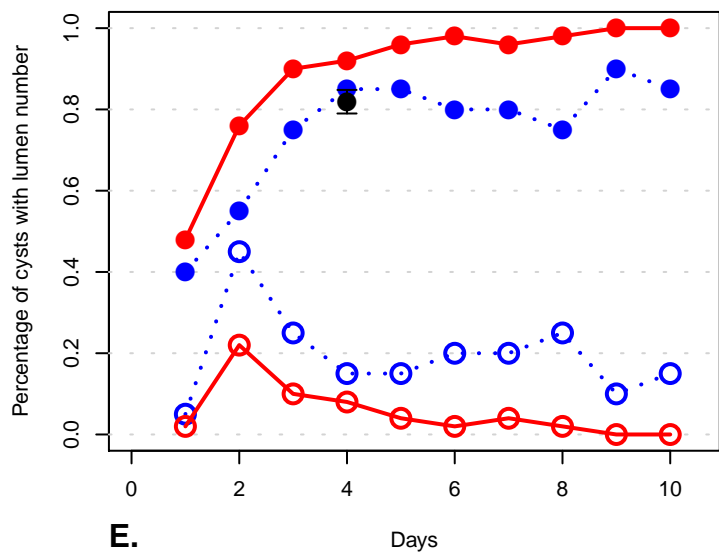
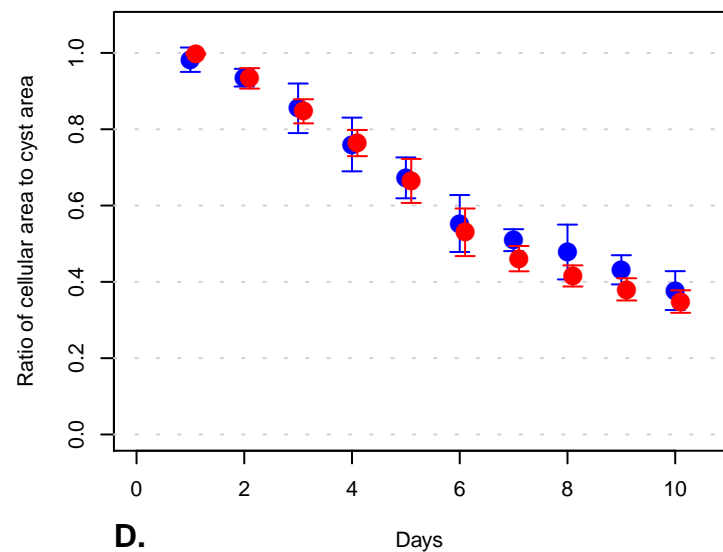
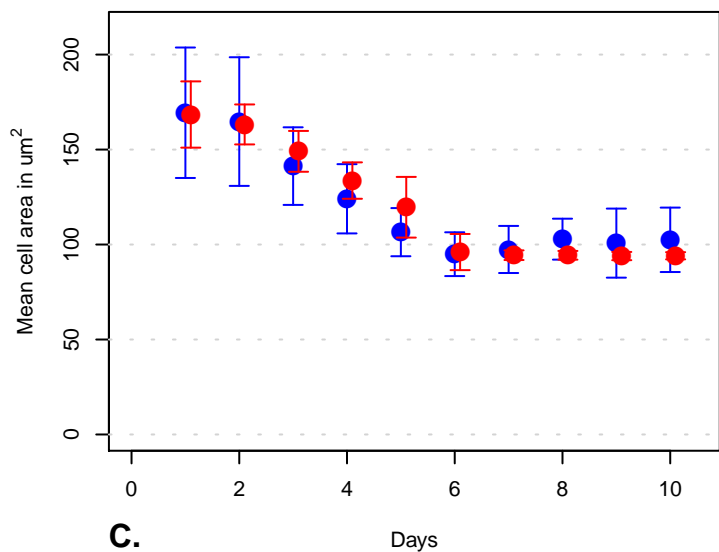
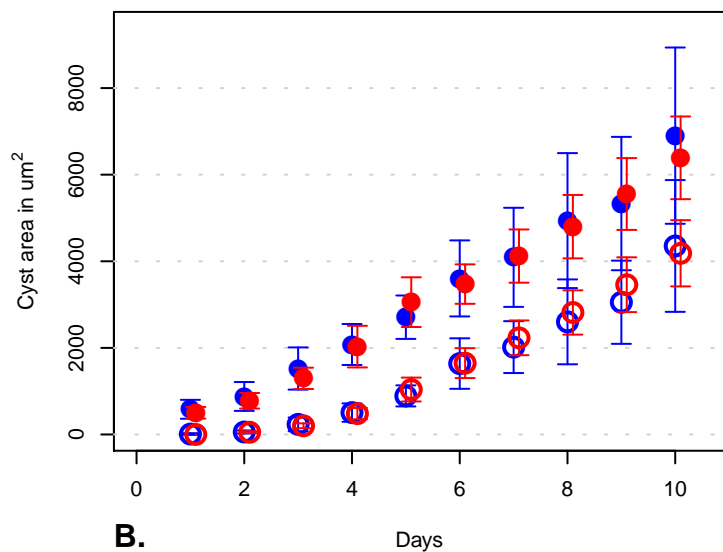
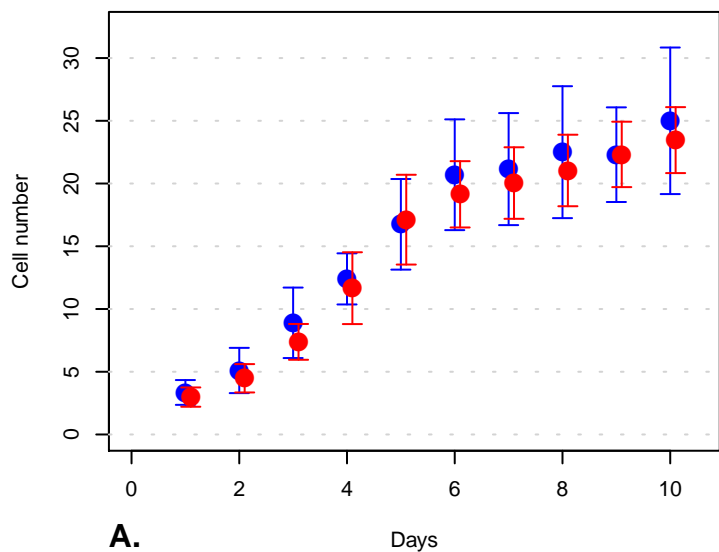




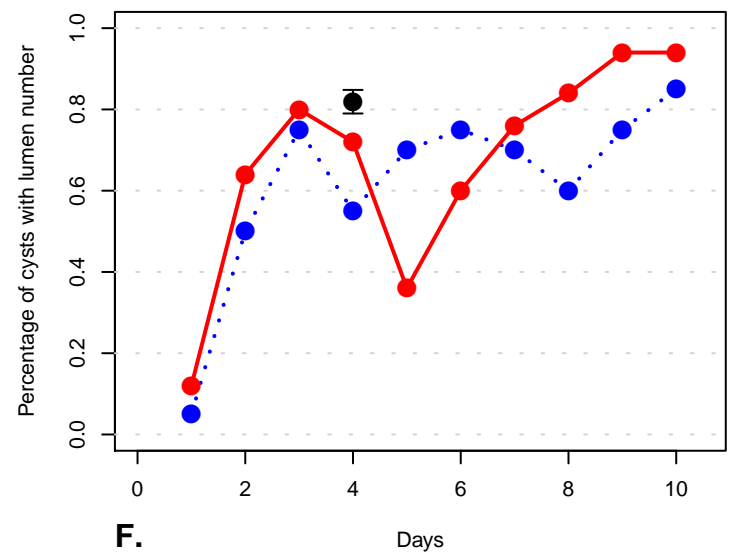
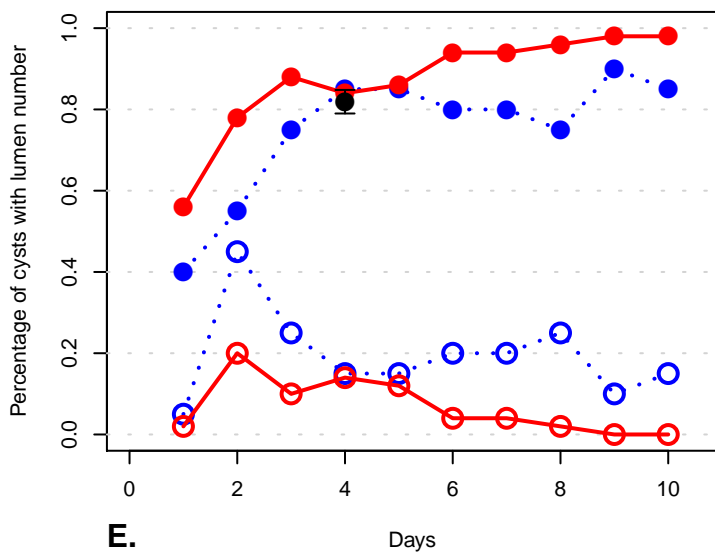
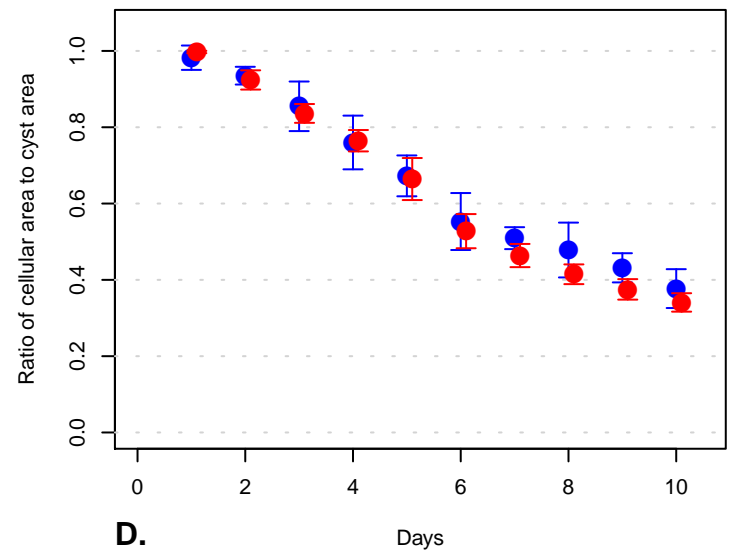
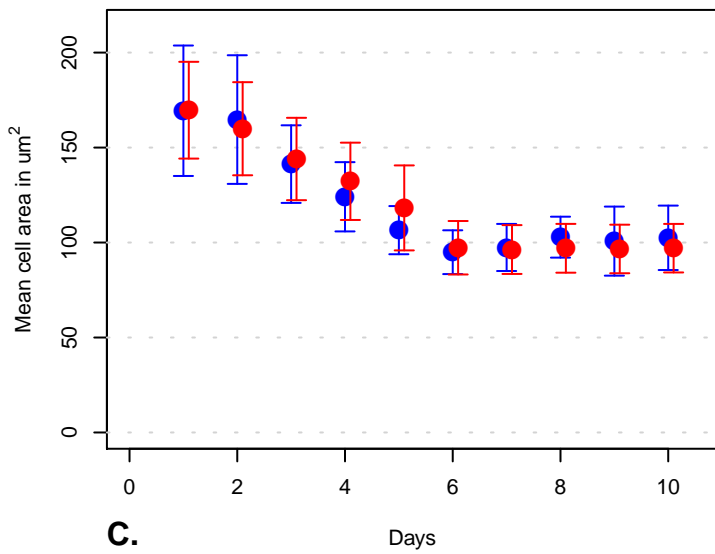
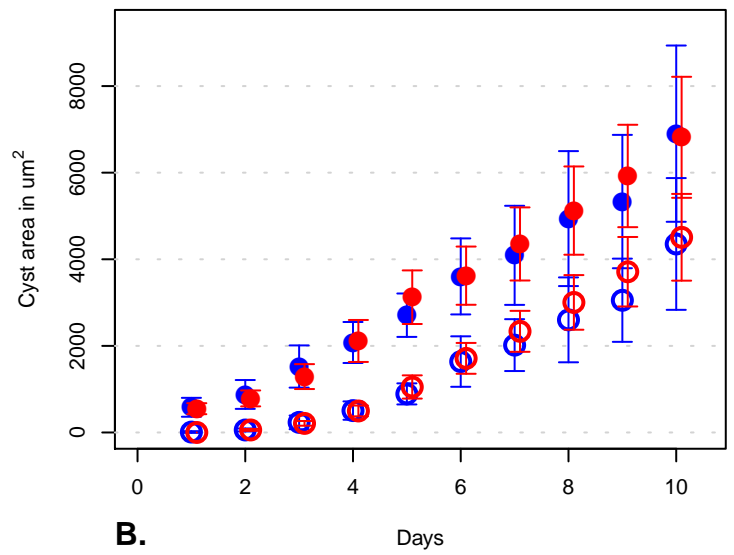
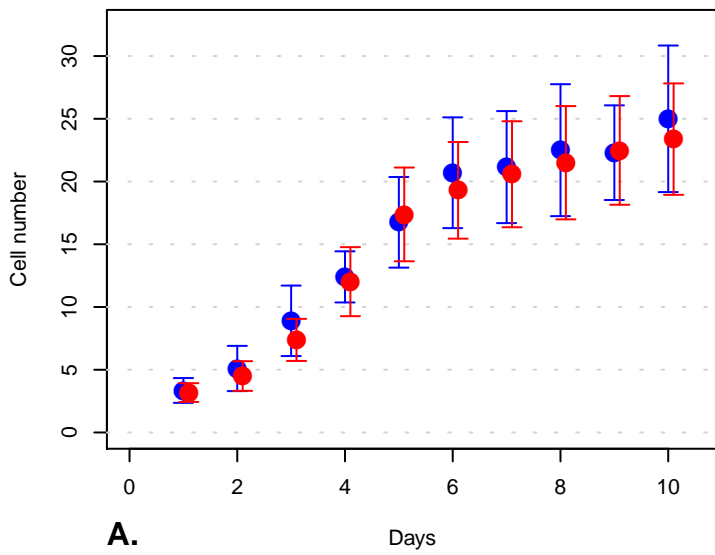
**Figure S11-49) Varied multiplier:  $m = 0.3$**



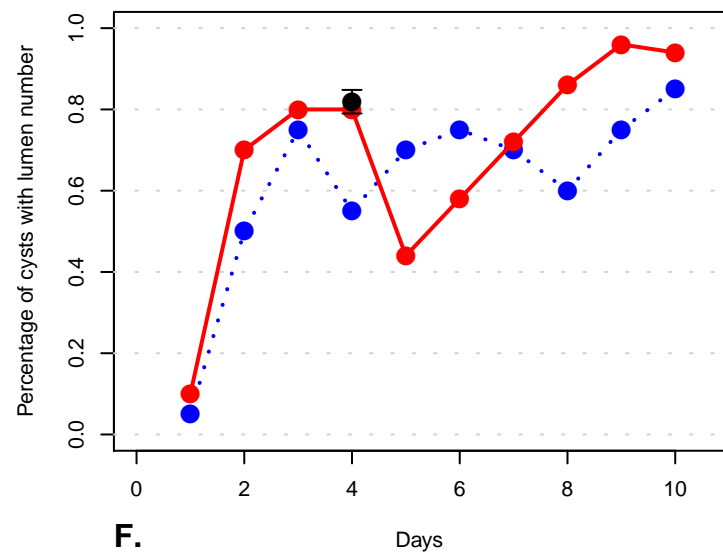
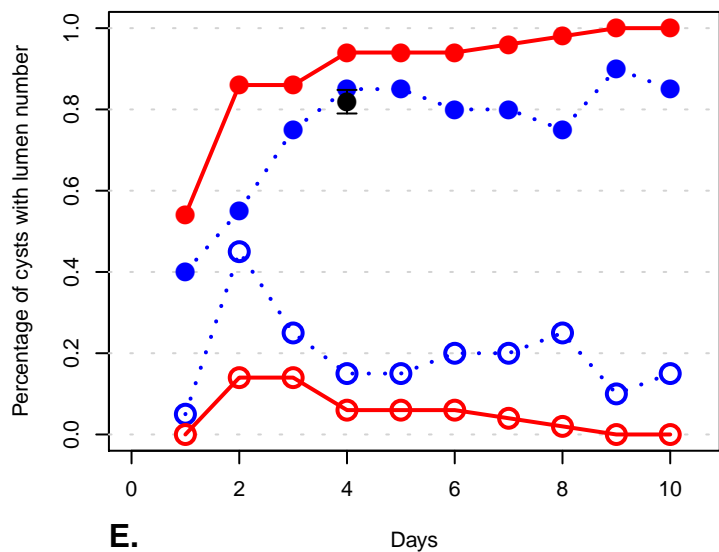
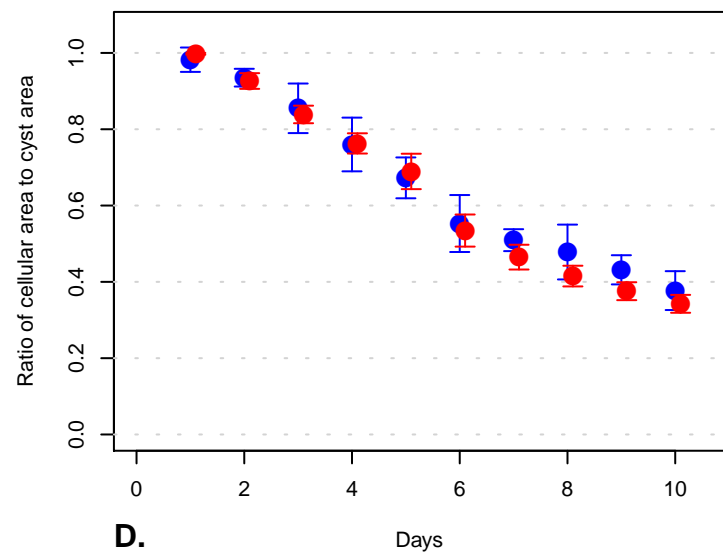
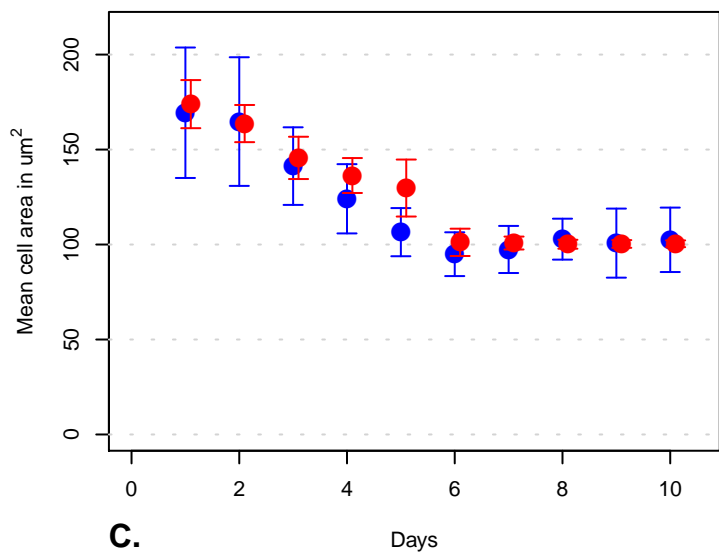
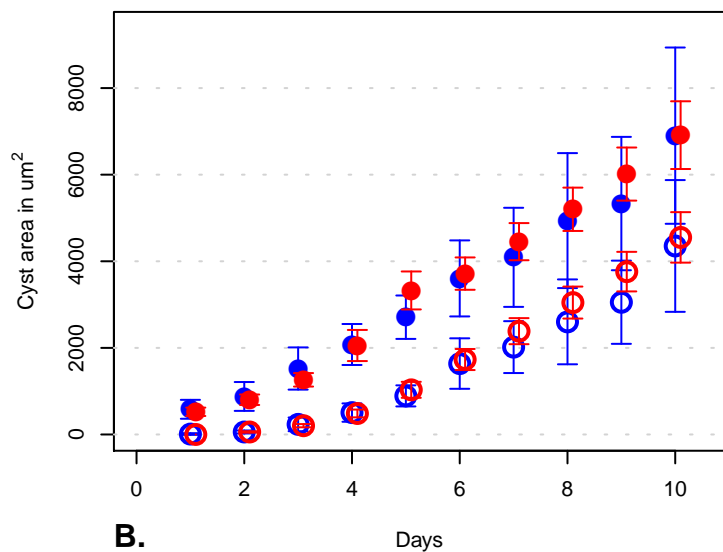
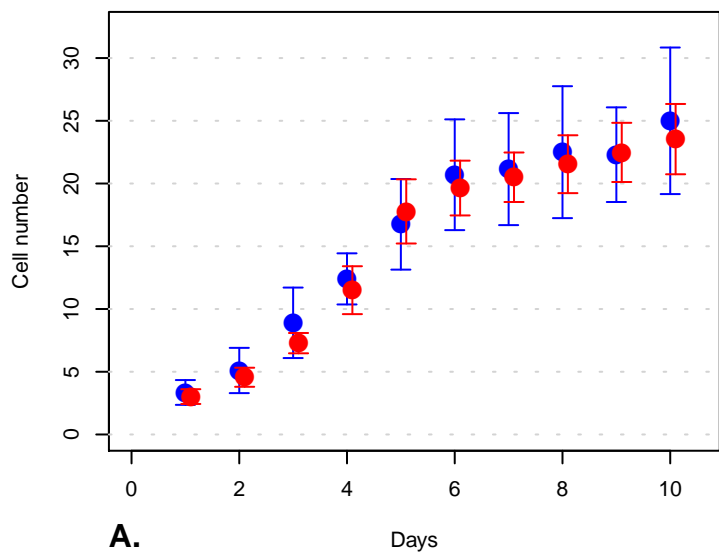
**Figure S11–50) Varied multiplier:  $m = 0.5$**



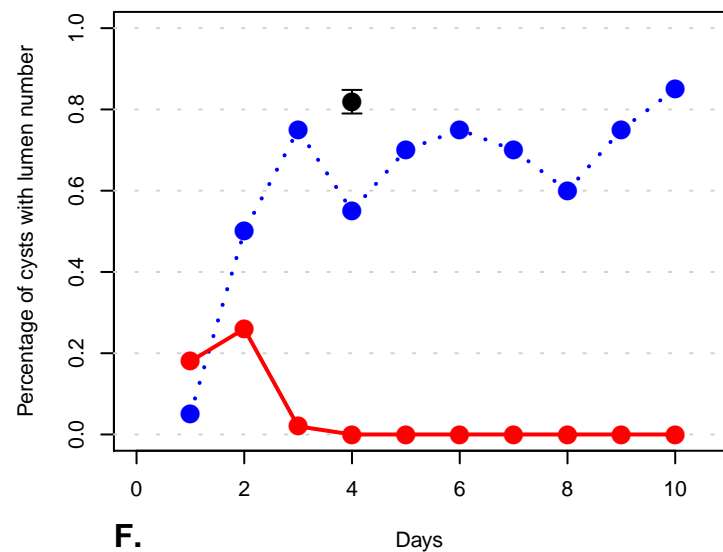
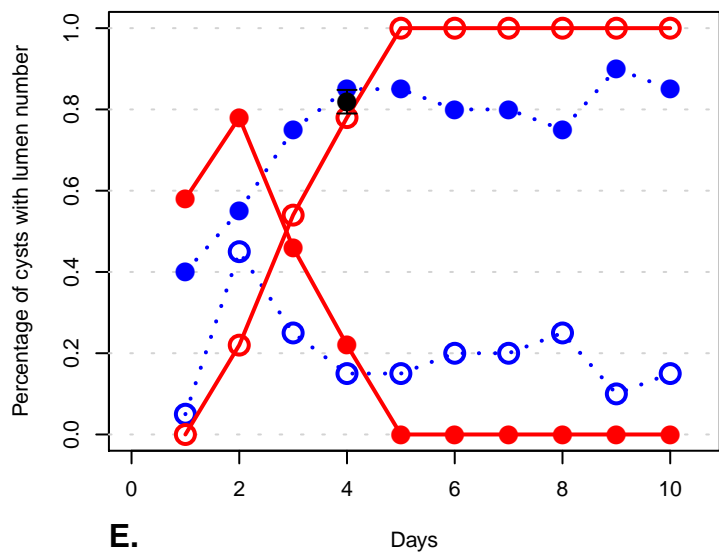
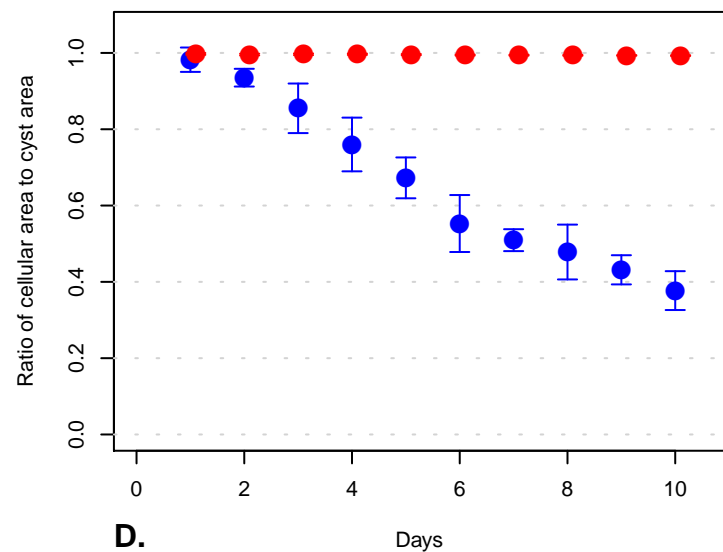
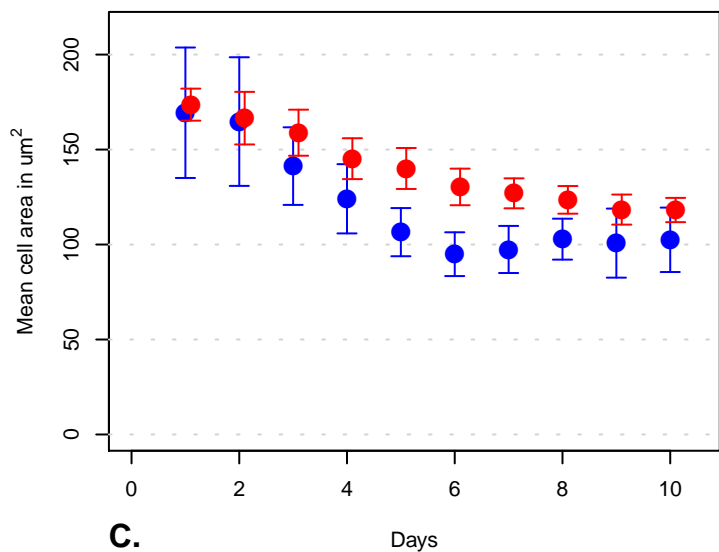
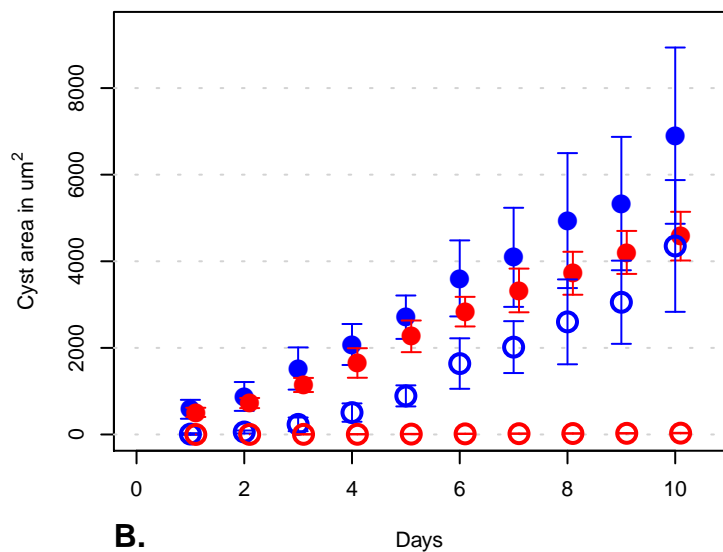
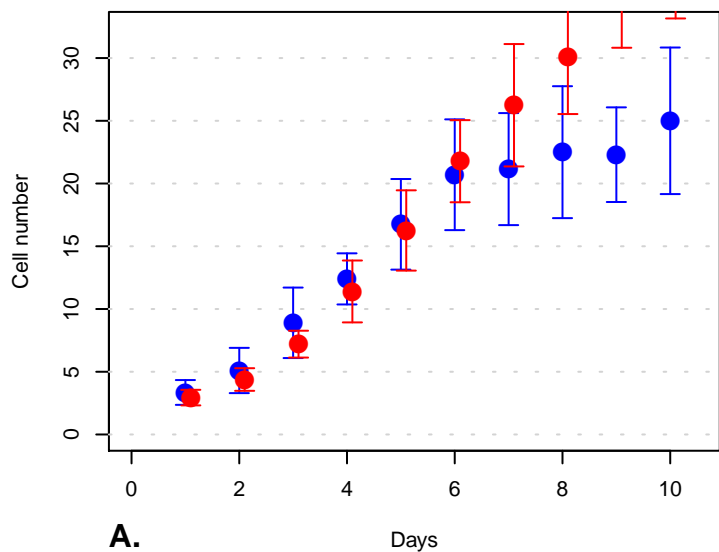
**Figure S11-51) Varied multiplier:  $m = 0.7$**



**Figure S11–52) Varied multiplier:  $m = 0.8$**



**Figure S11–53) Varied lumenGrowthRate: Igr = 0**



**Figure S11–54) Varied lumenGrowthRate: Igr = 0.001**

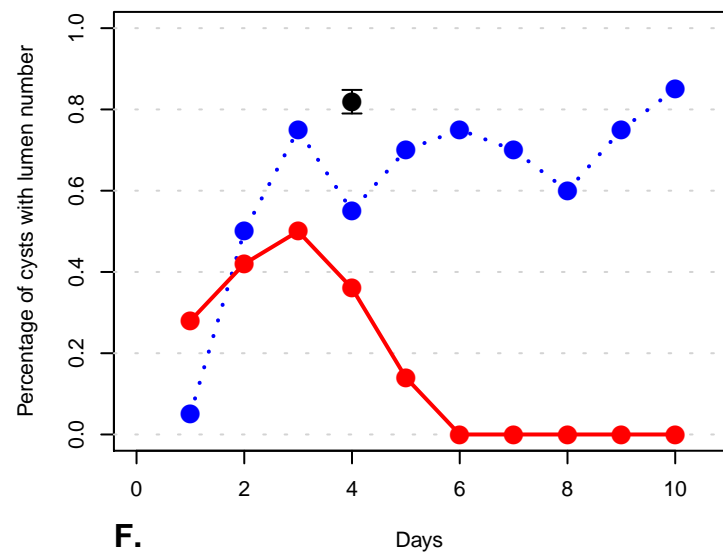
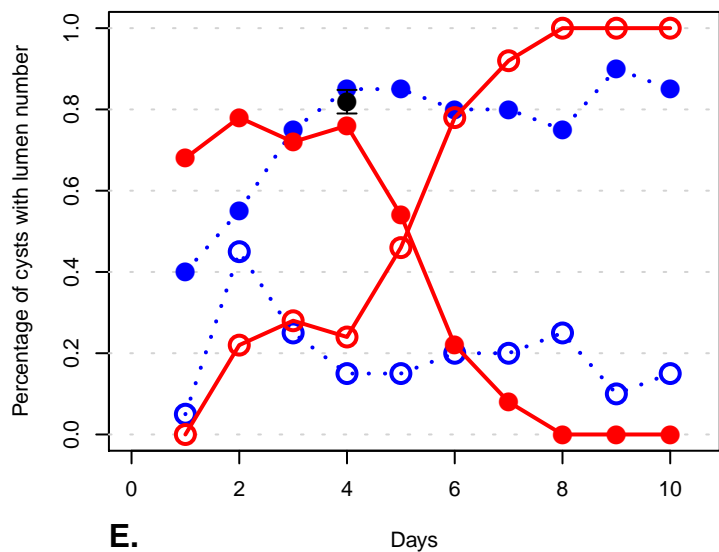
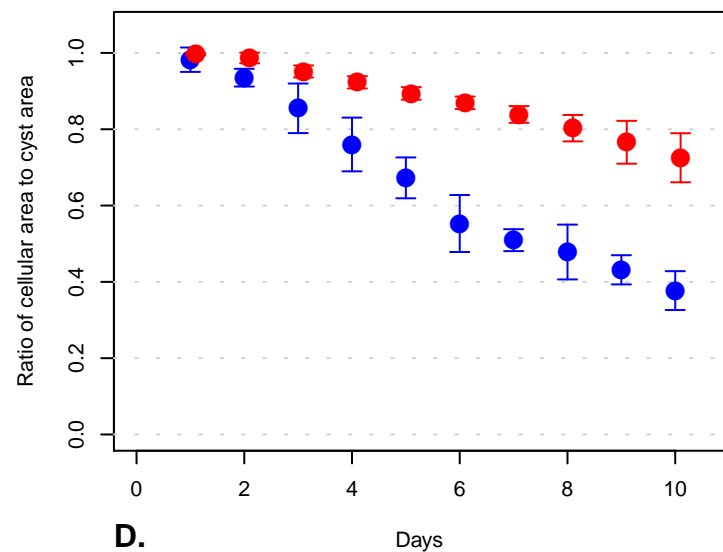
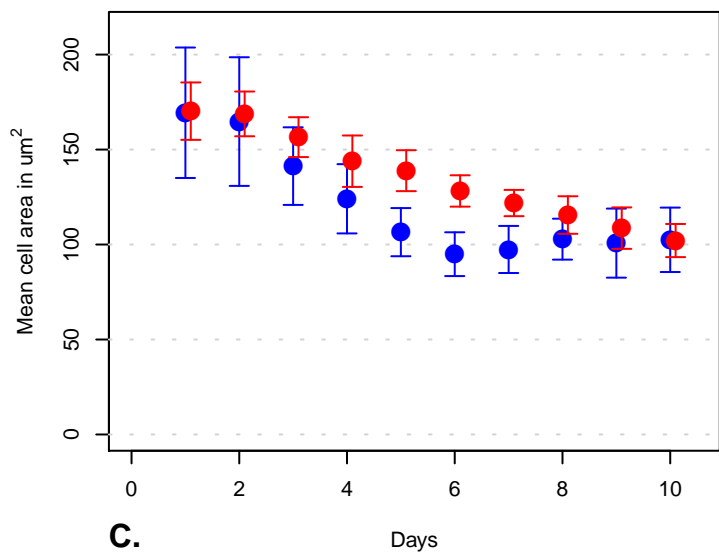
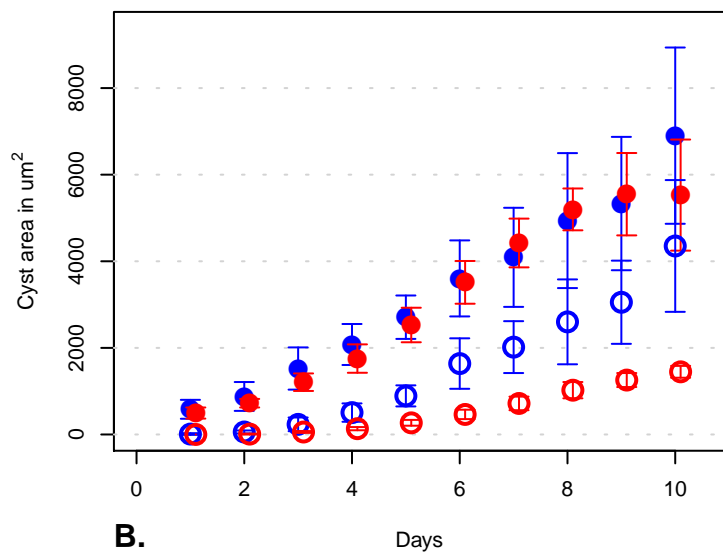
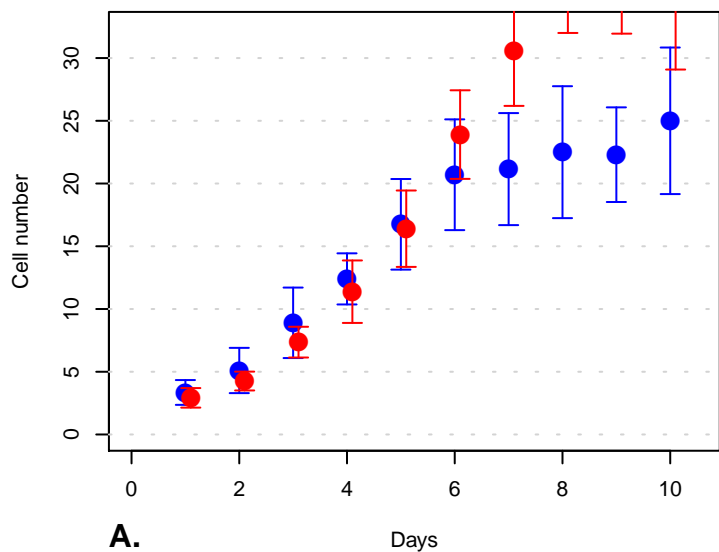
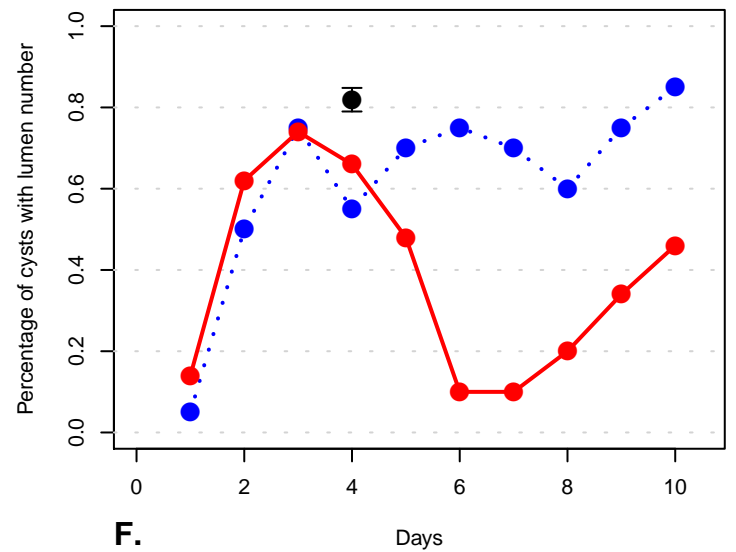
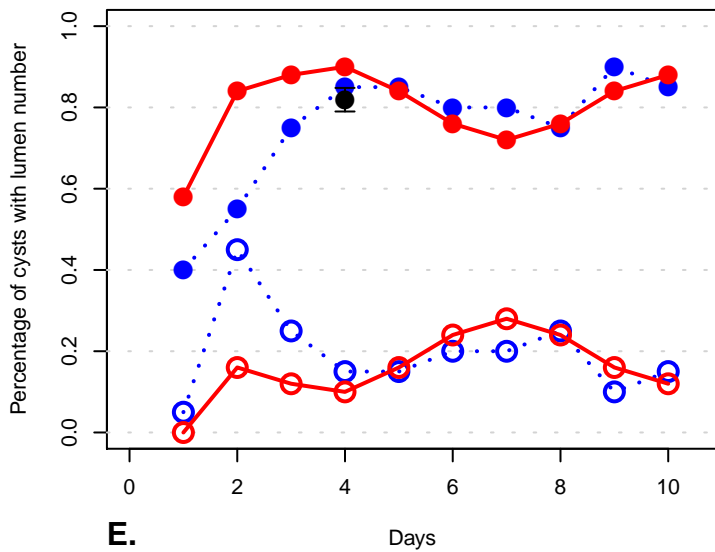
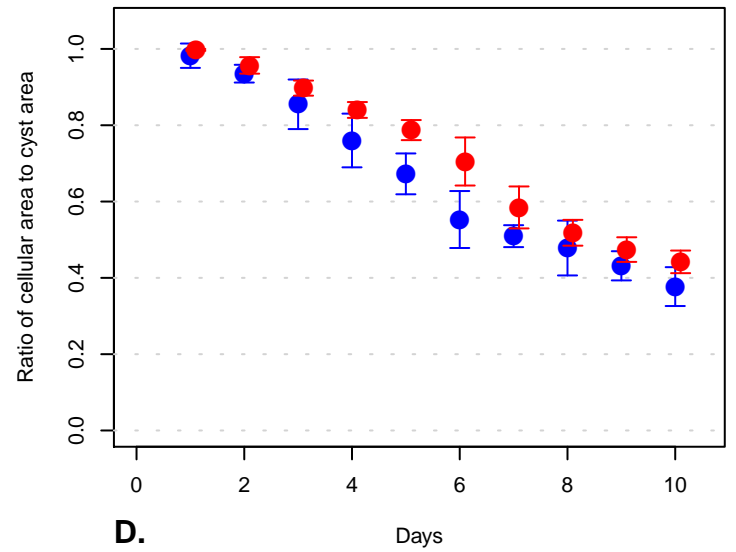
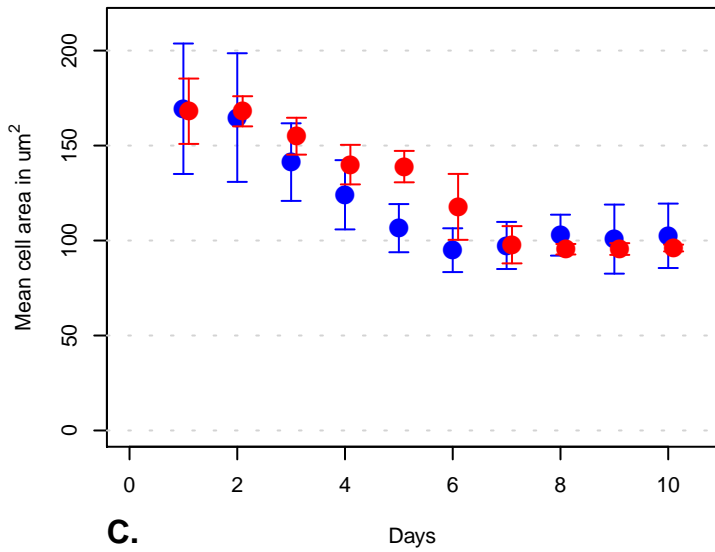
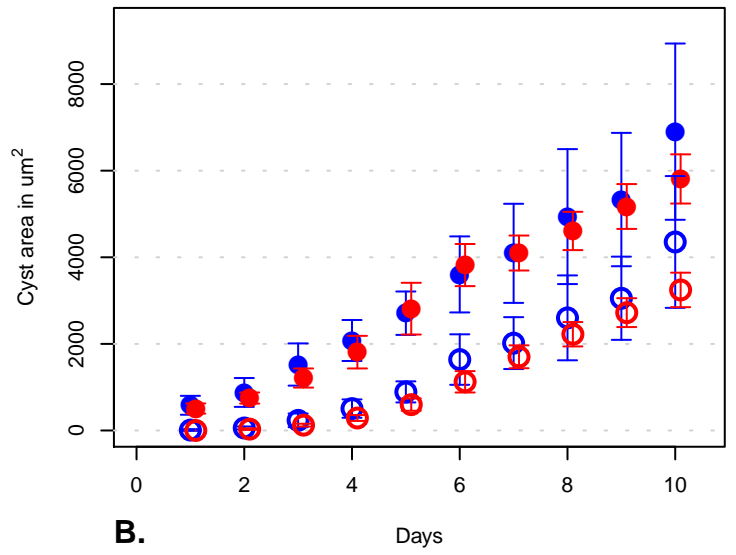
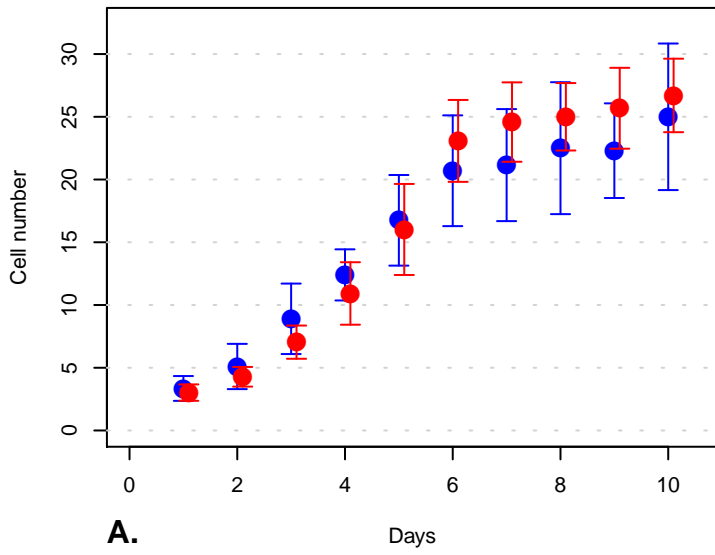
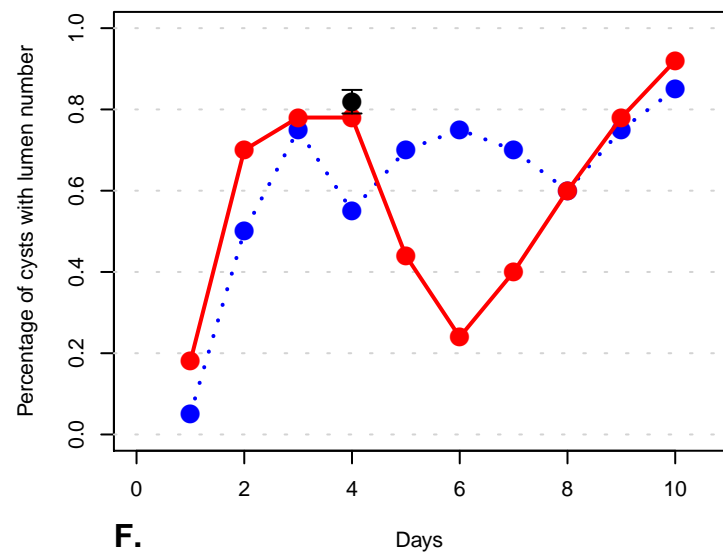
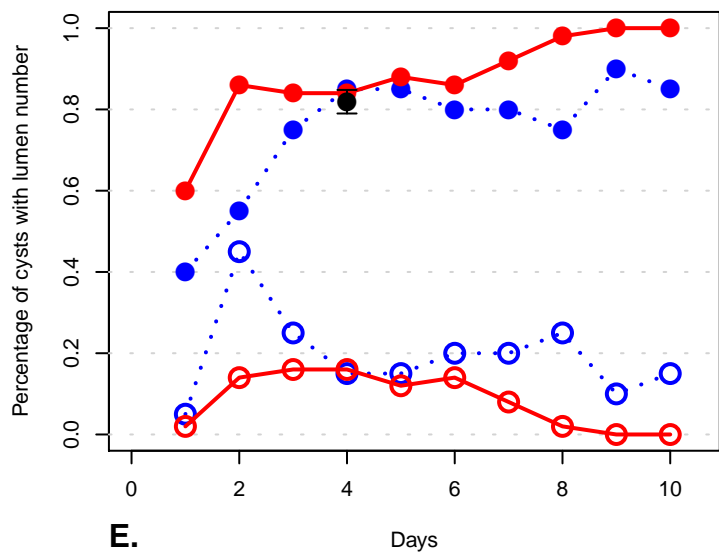
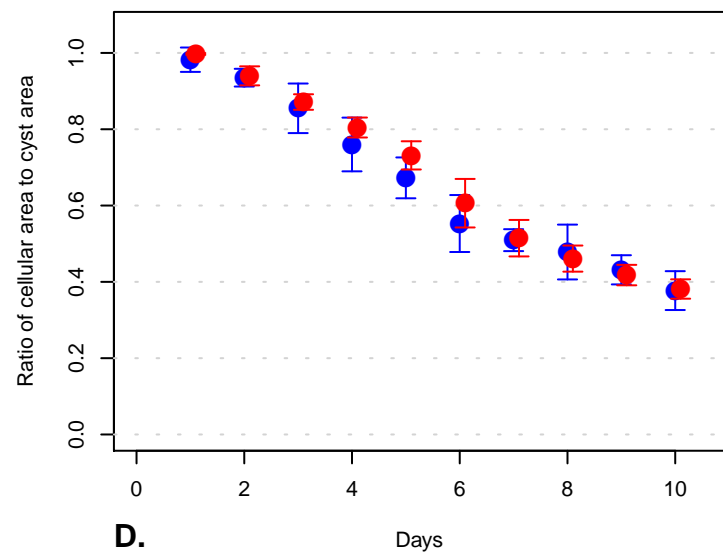
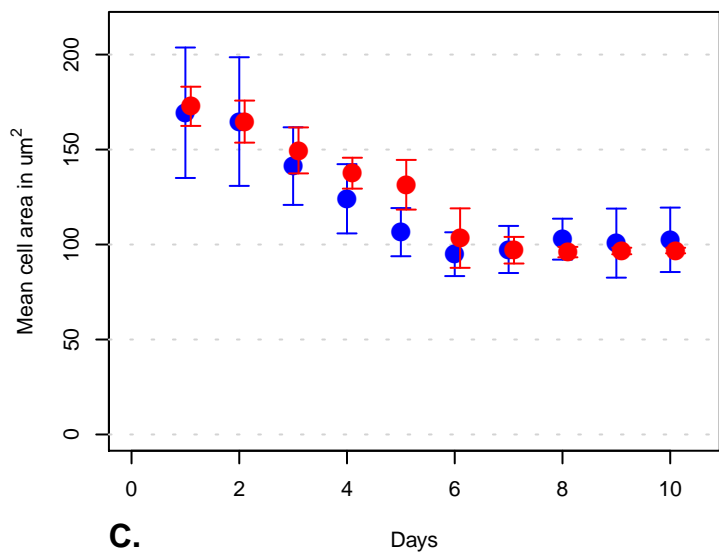
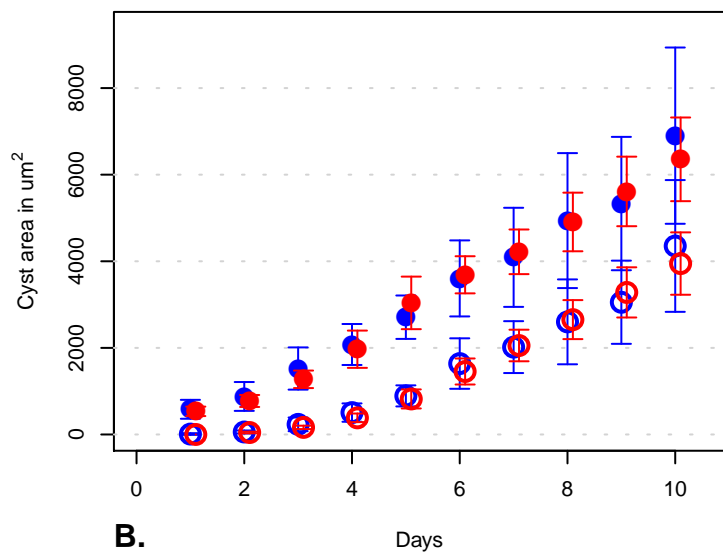
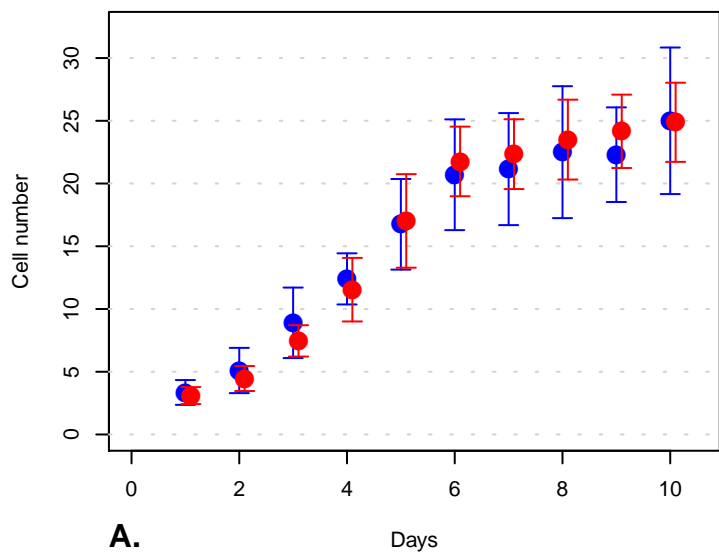


Figure S11–55) Varied lumenGrowthRate: Igr = 0.002

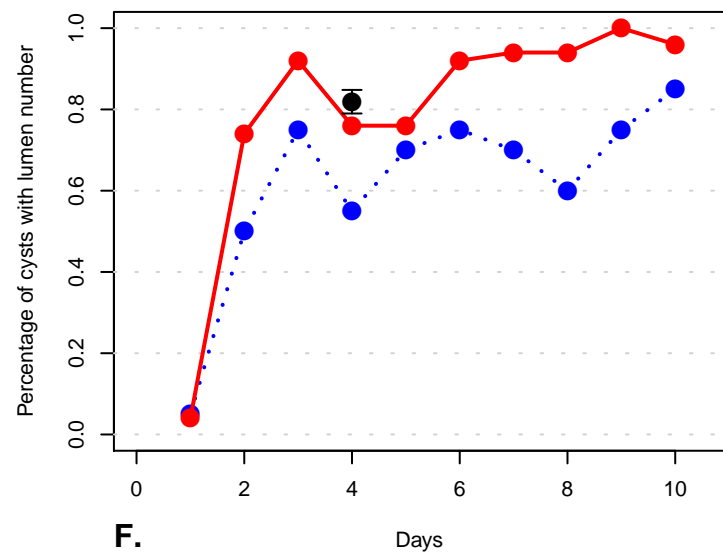
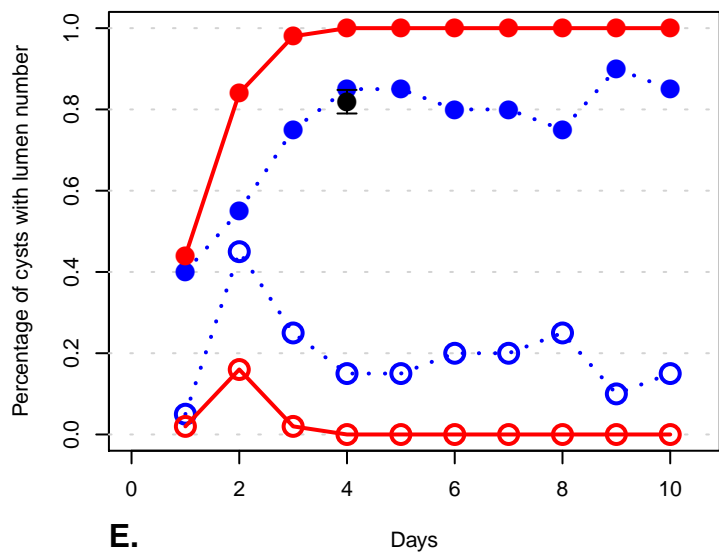
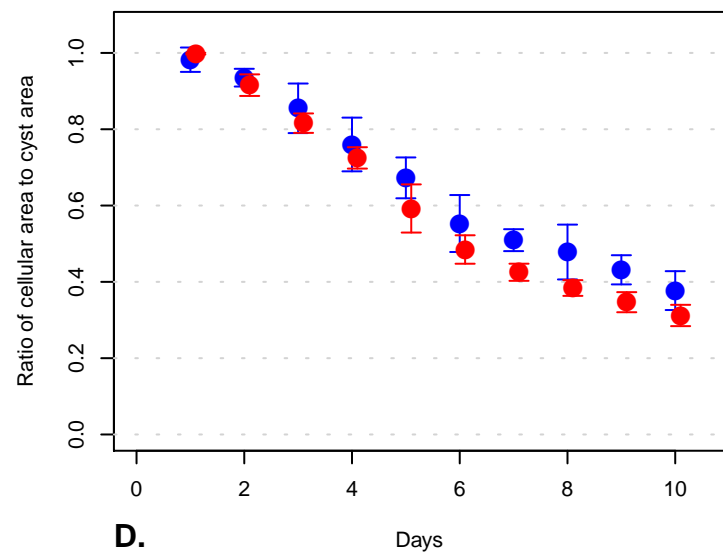
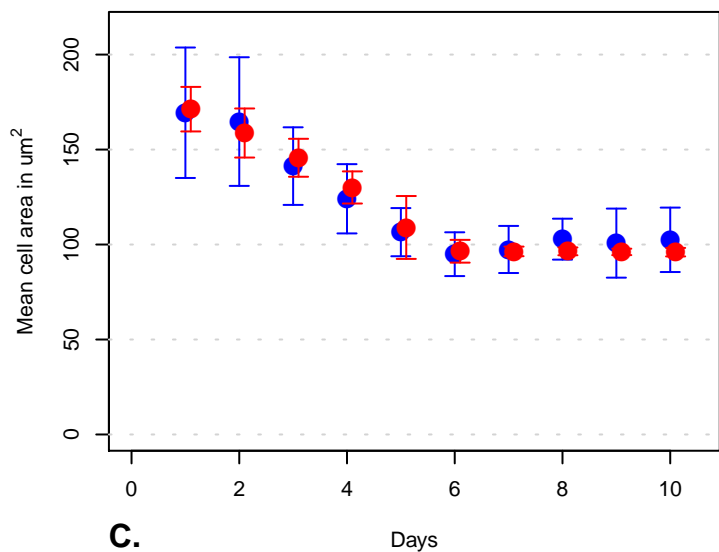
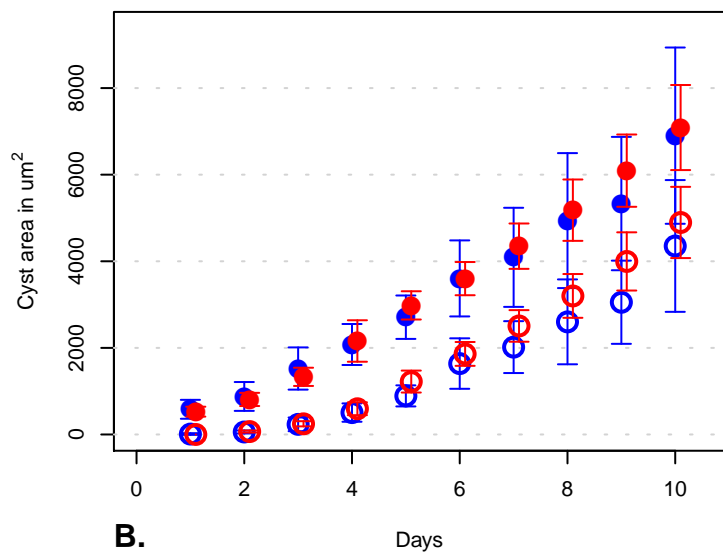
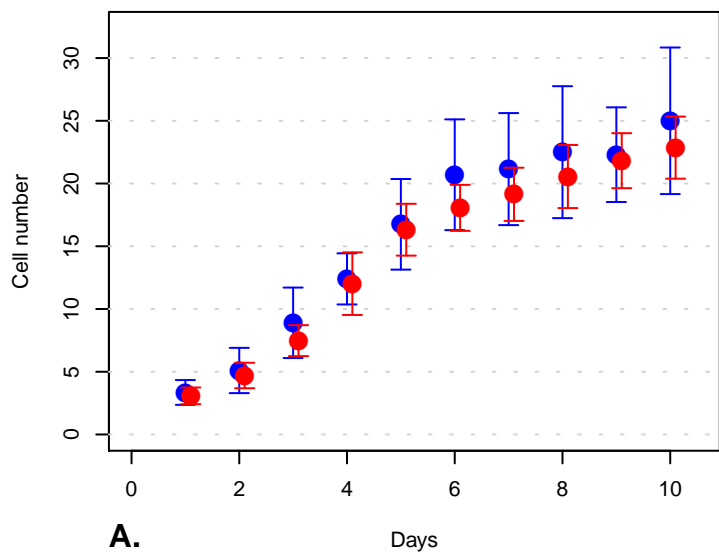


**Figure S11–56) Varied lumenGrowthRate: Igr = 0.0025**

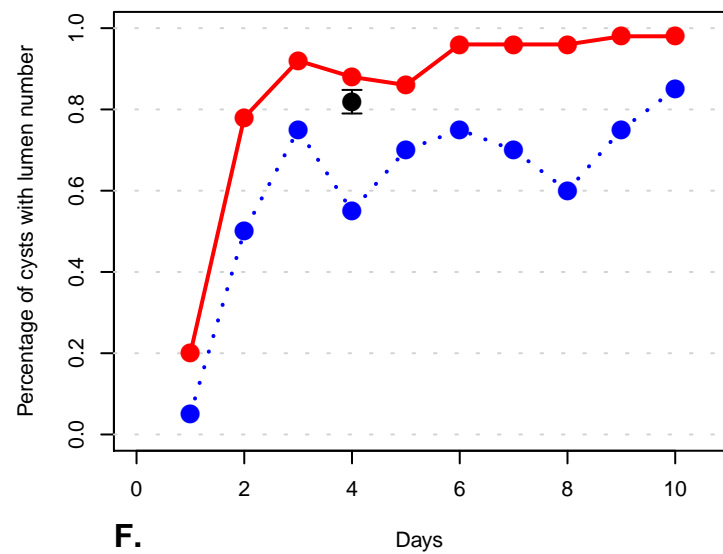
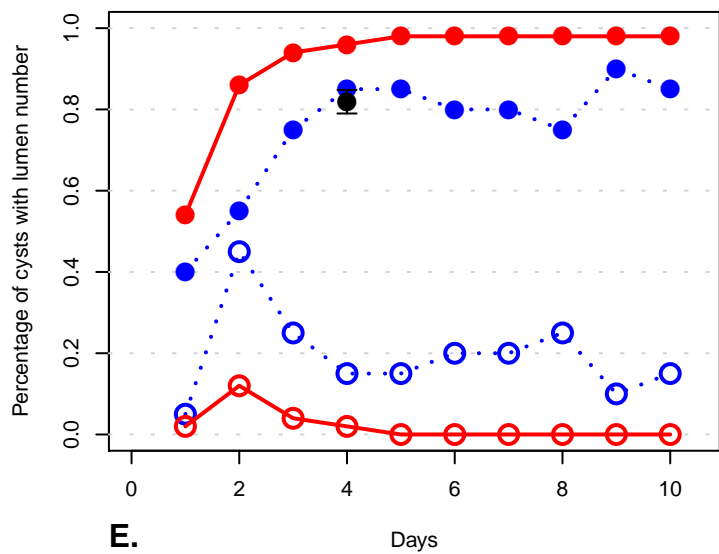
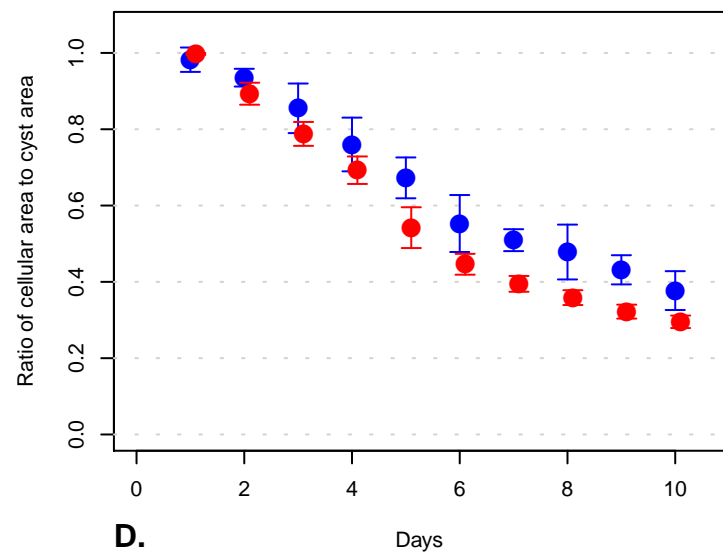
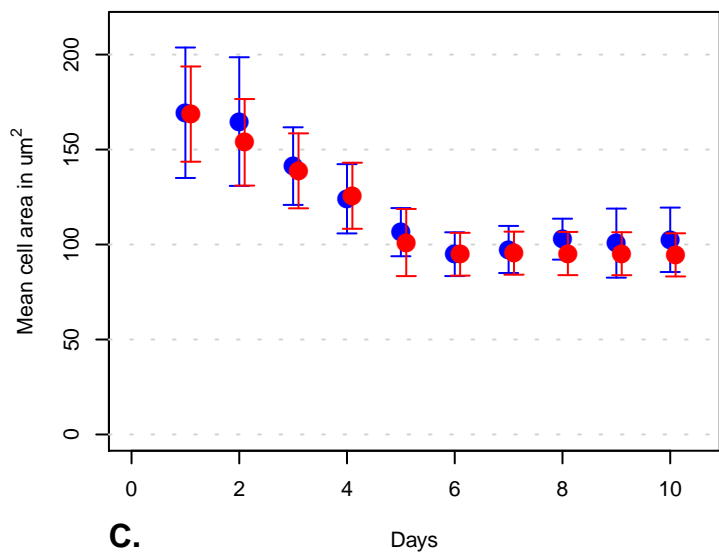
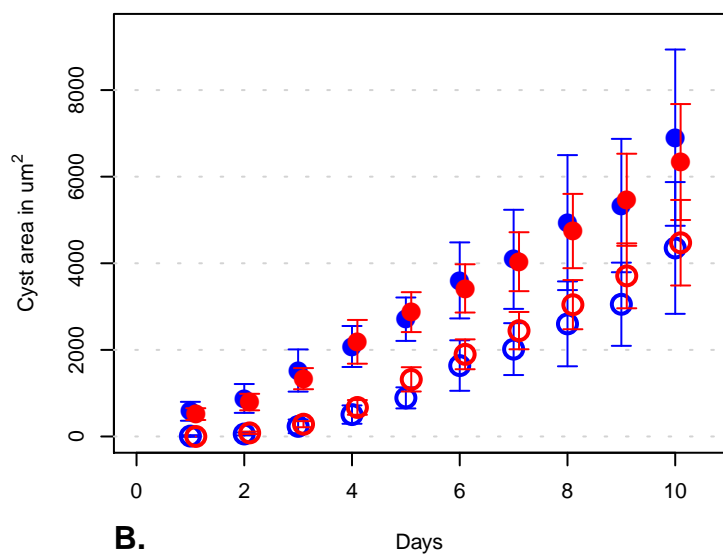
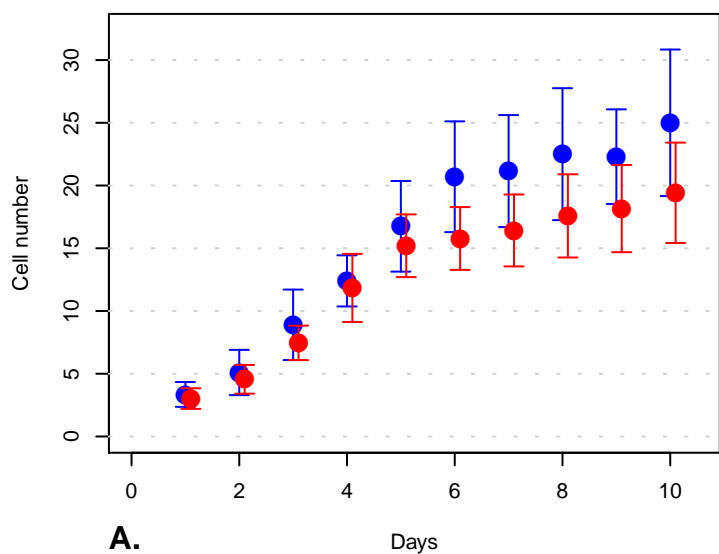




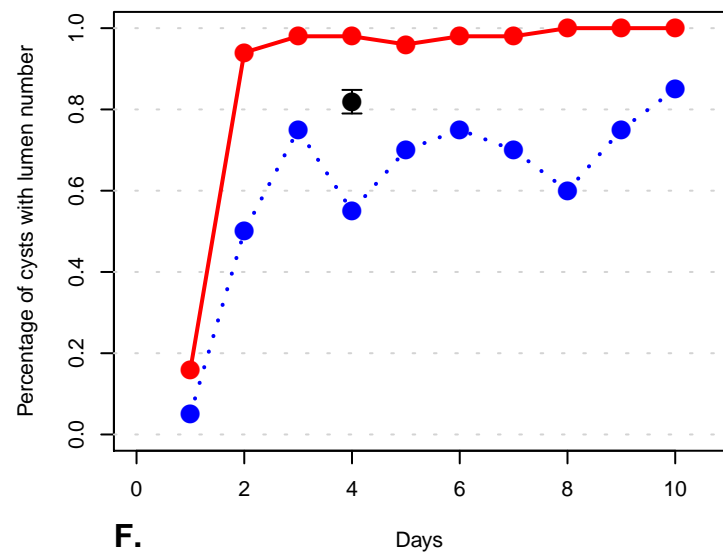
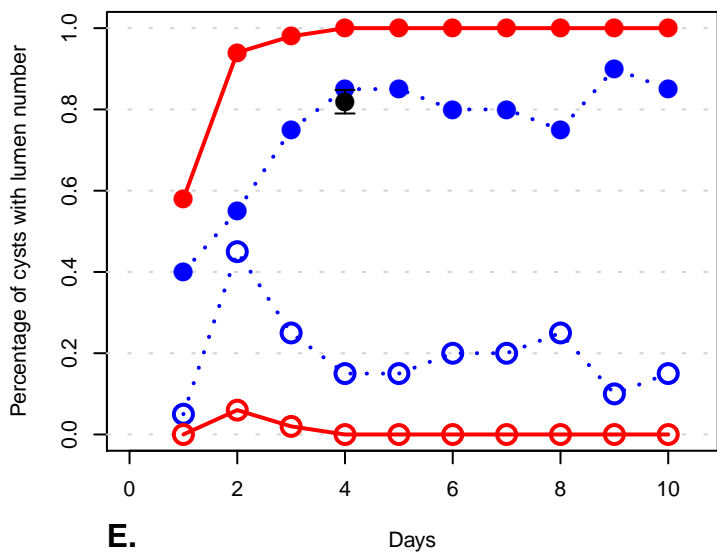
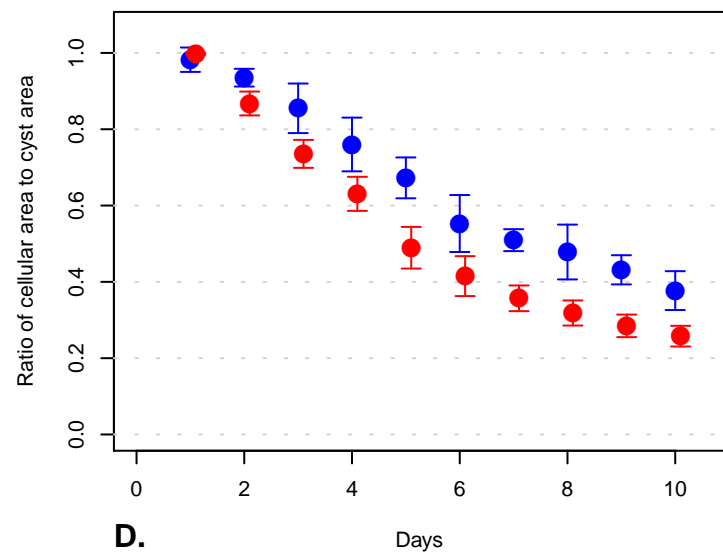
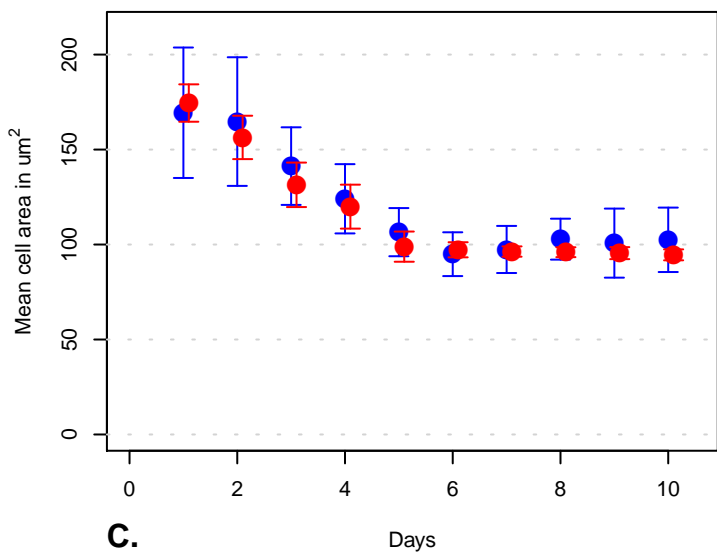
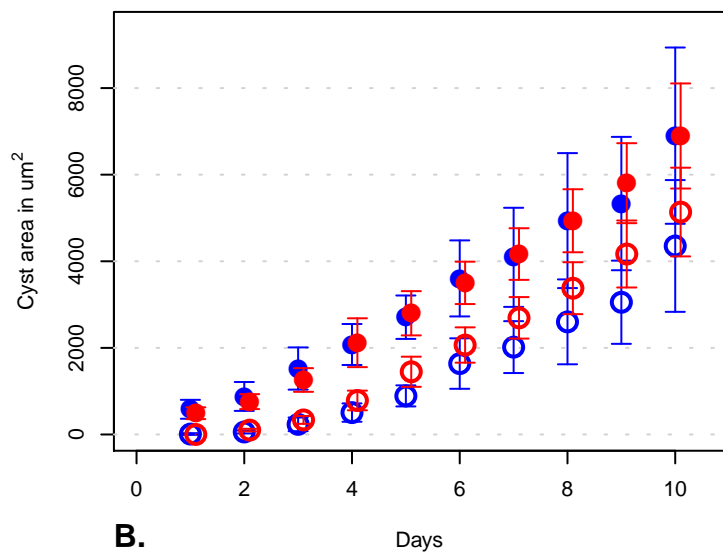
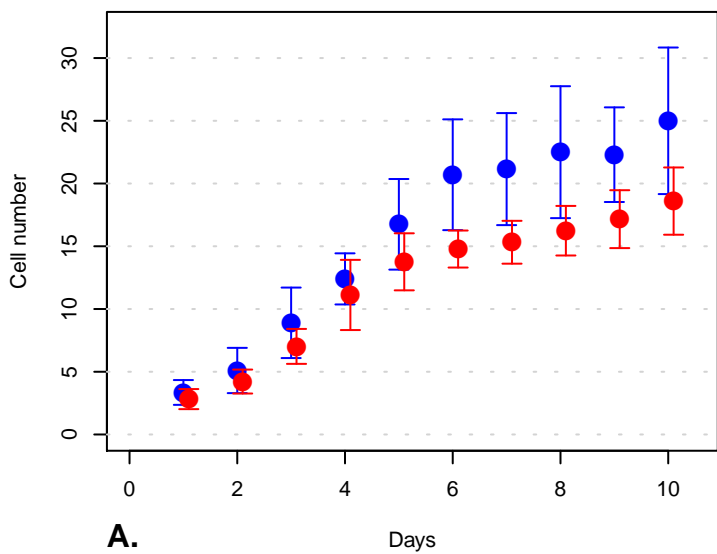
**Figure S11-57) Varied lumenGrowthRate: Igr = 0.0035**



**Figure S11–58) Varied lumenGrowthRate: Igr = 0.004**



**Figure S11–59) Varied lumenGrowthRate: Igr = 0.005**



**Figure S11–60) Varied lumenGrowthRate: Igr = 0.006**

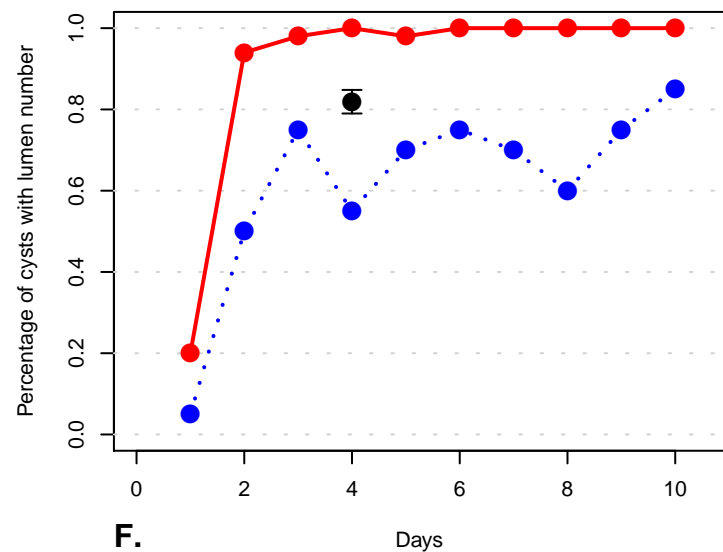
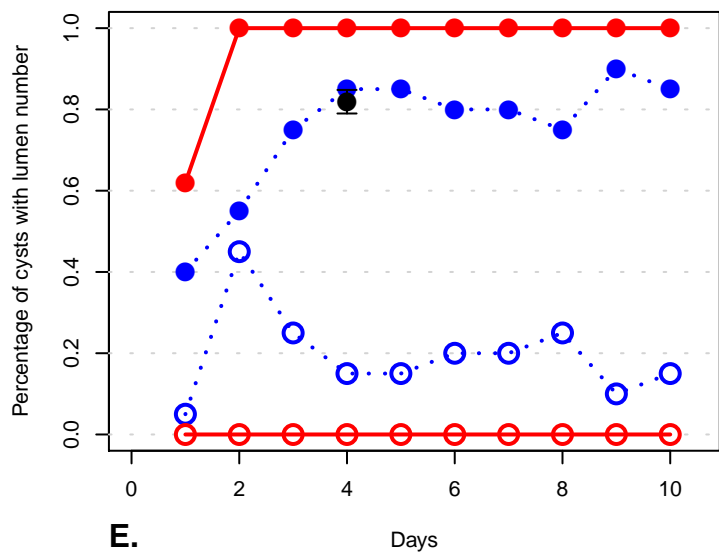
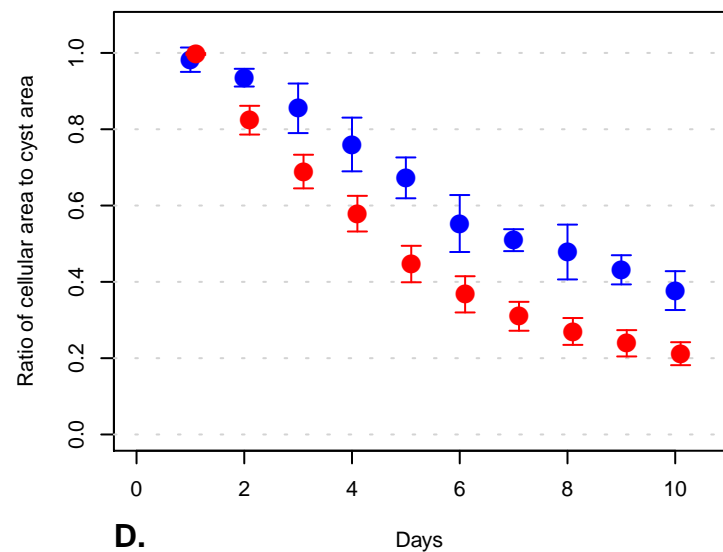
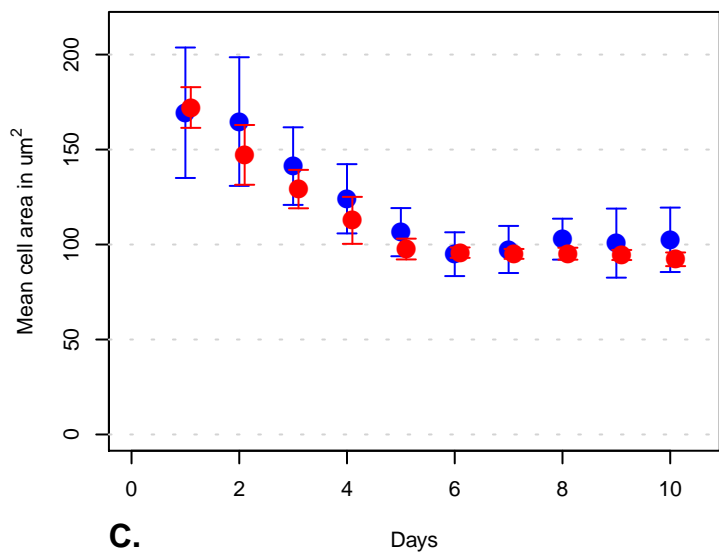
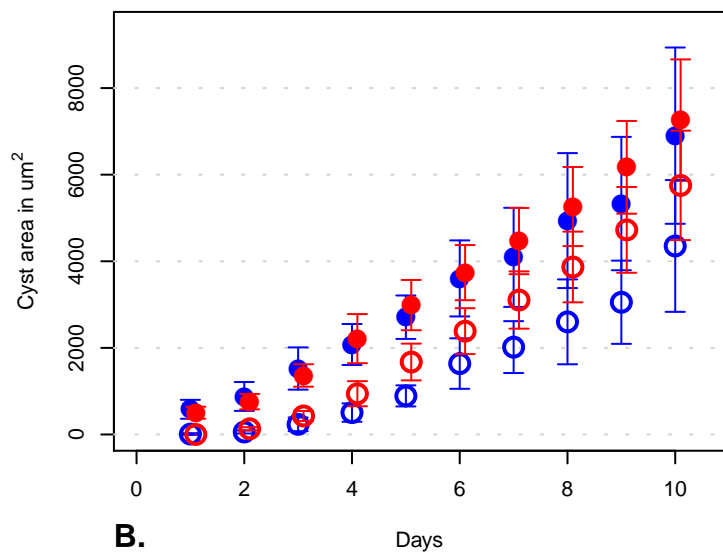
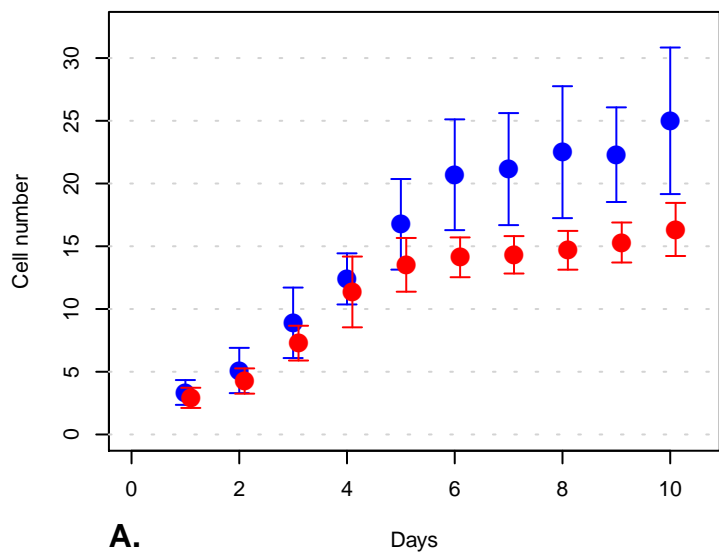
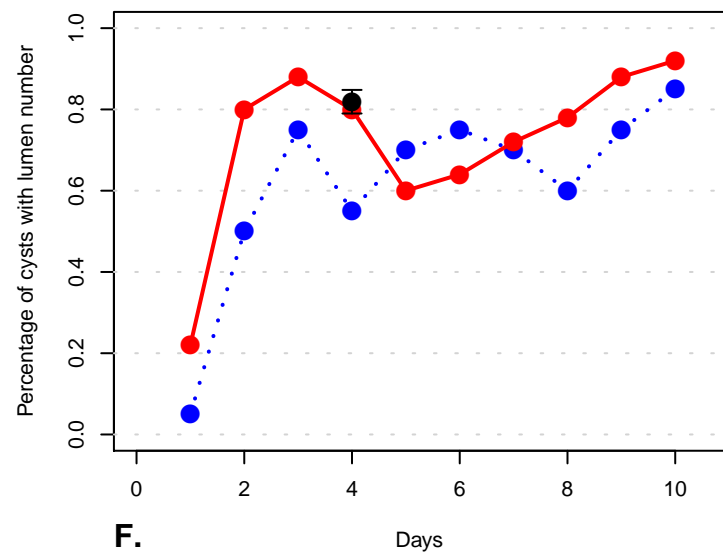
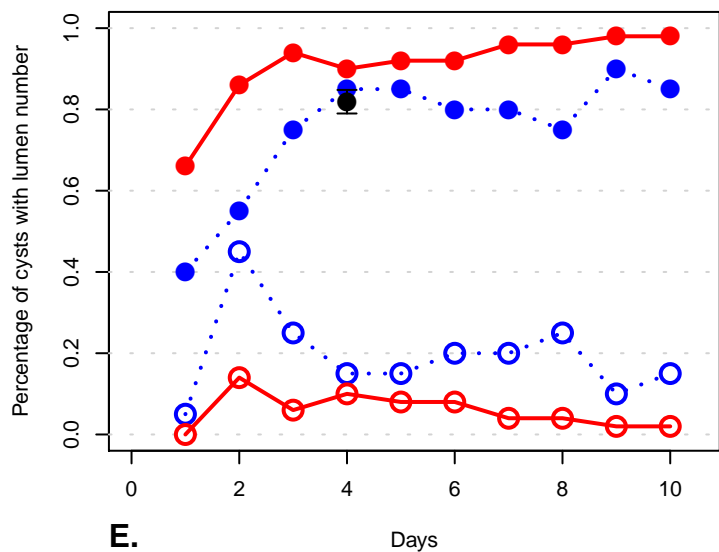
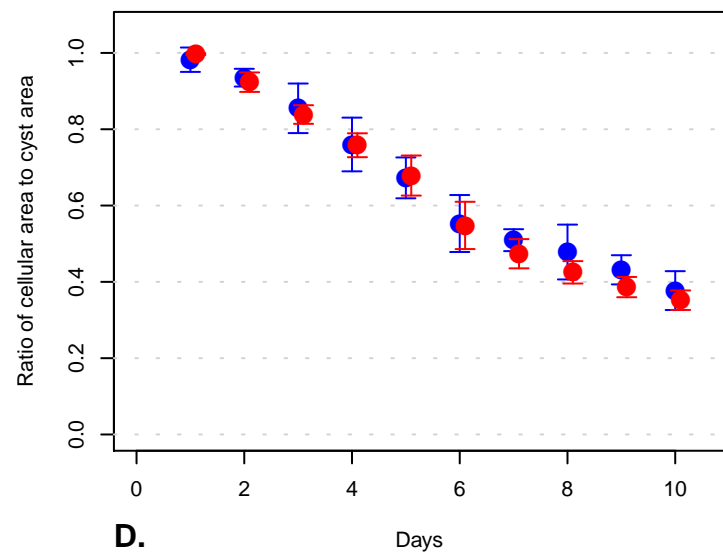
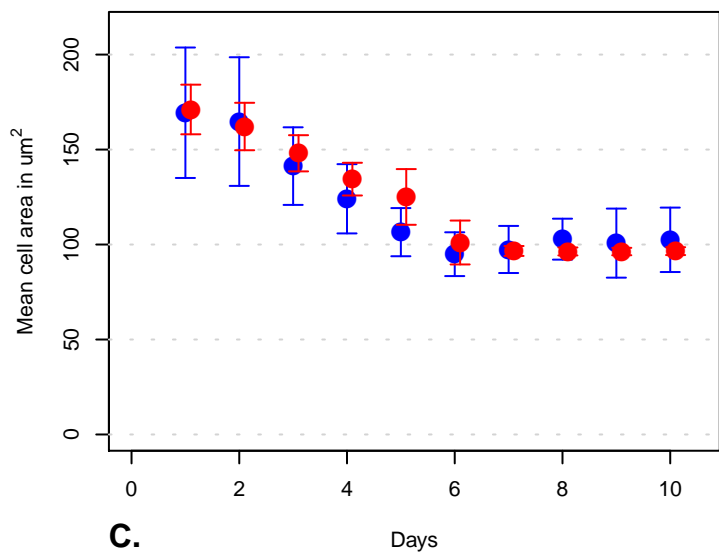
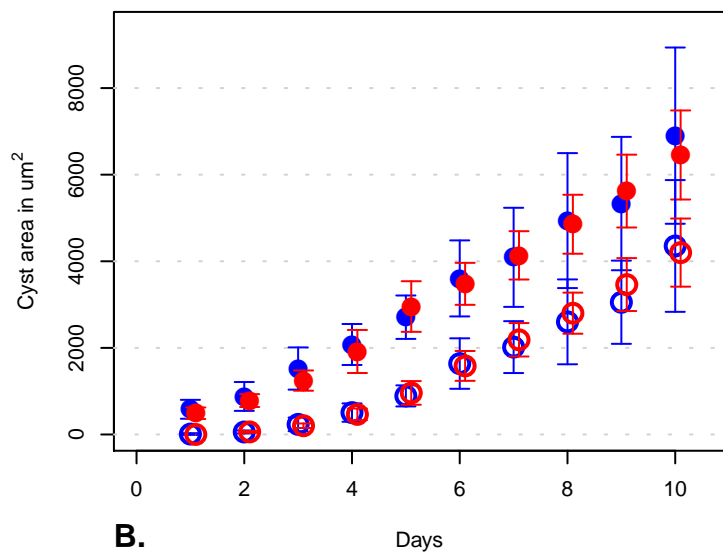
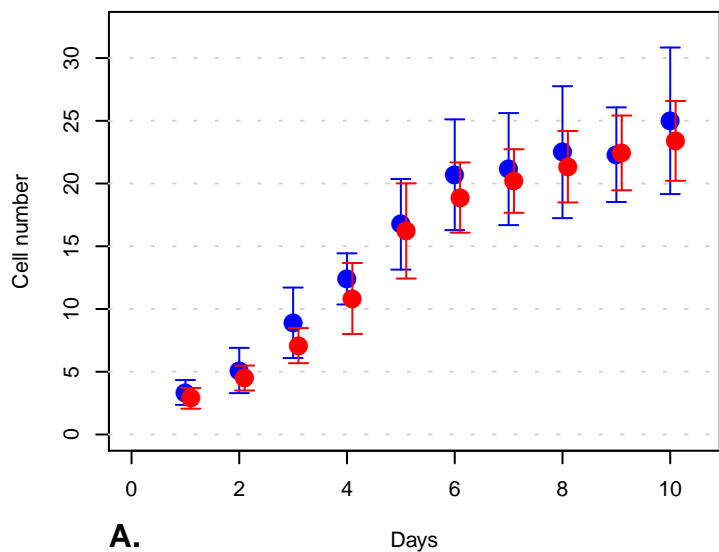


Figure S11-61) Varied deathRateLumen:  $drl = 0.01$



**Figure S11–62) Varied deathRateLumen: drl = 0.03**

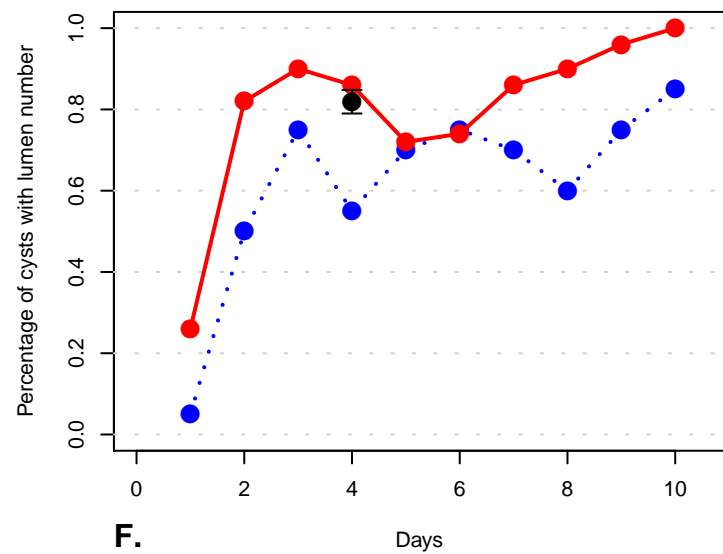
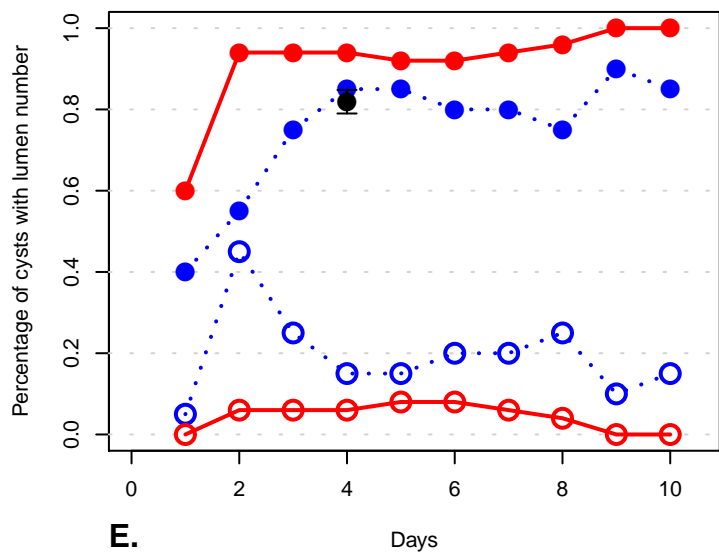
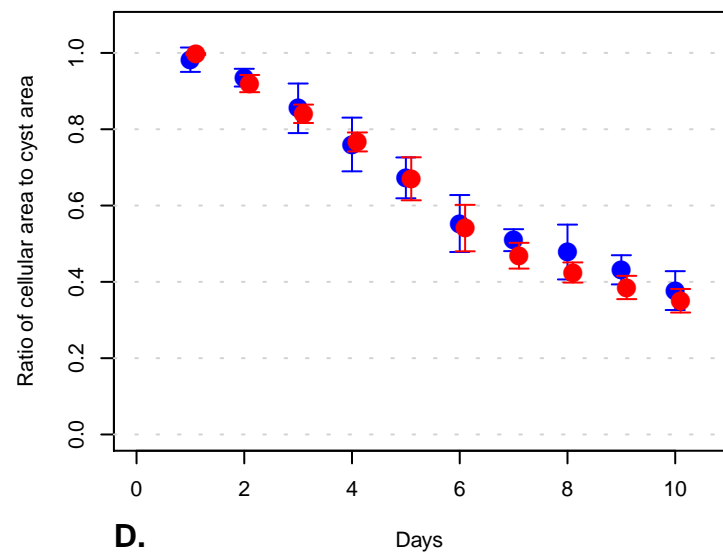
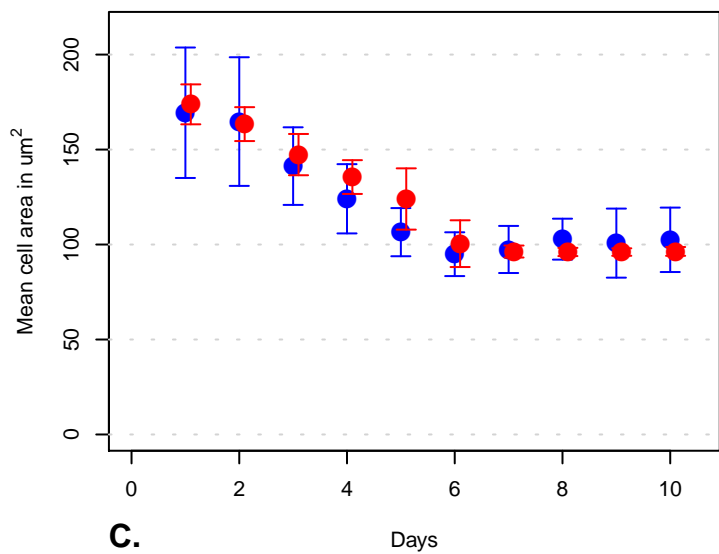
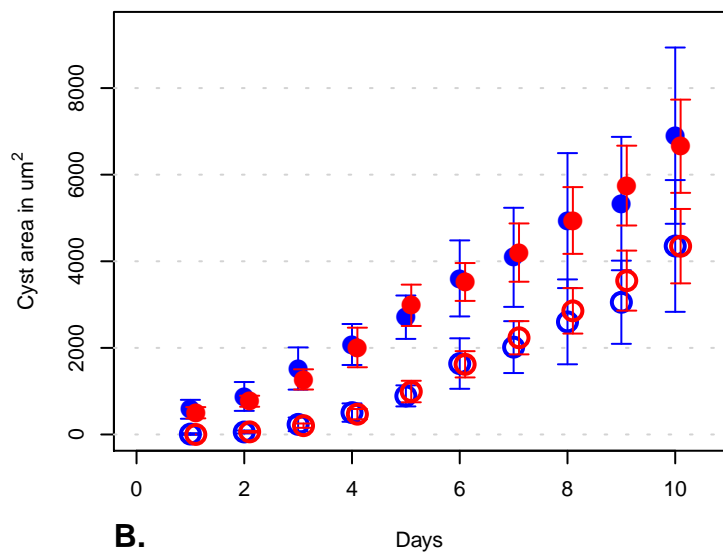
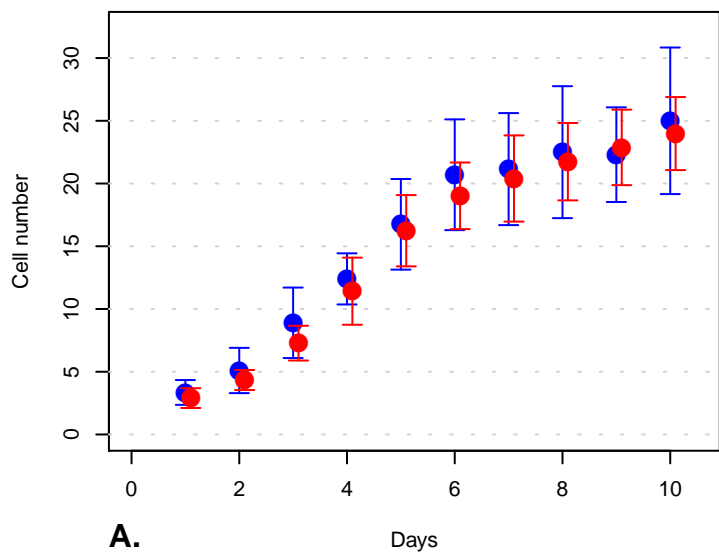
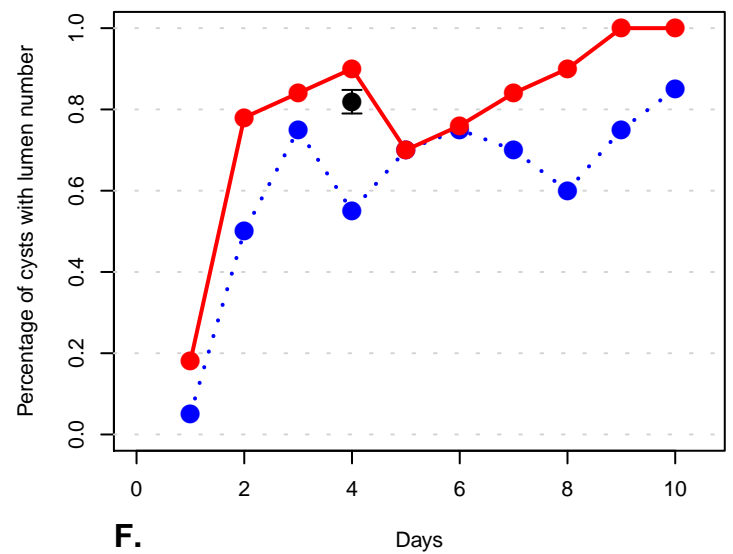
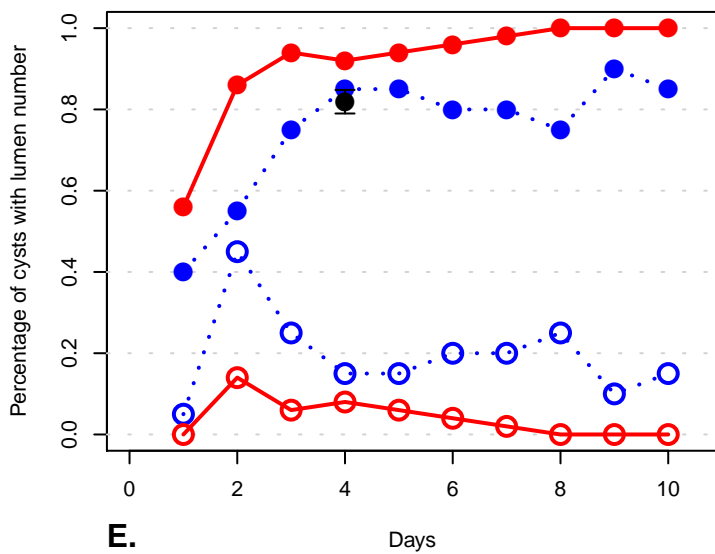
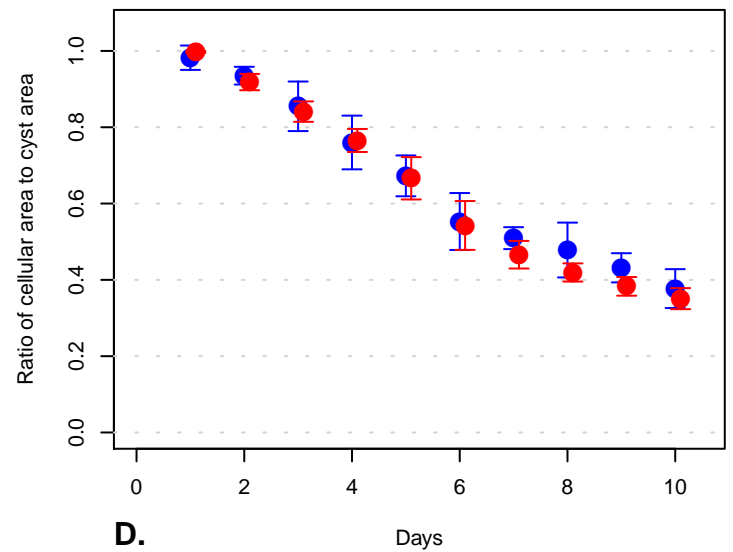
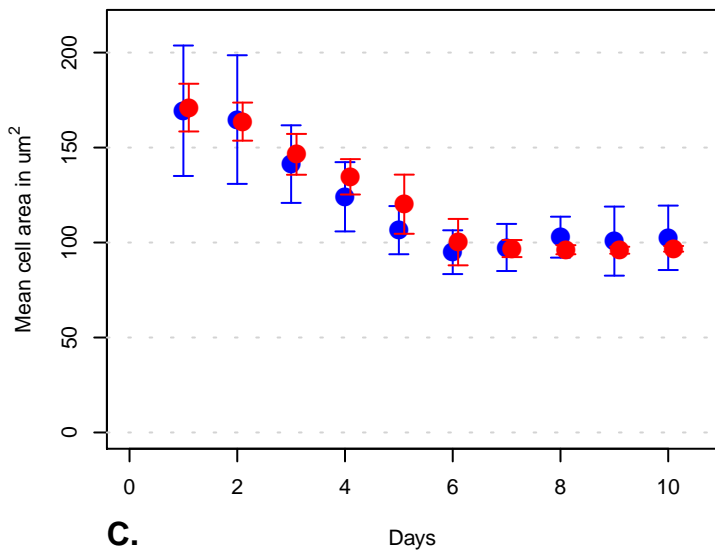
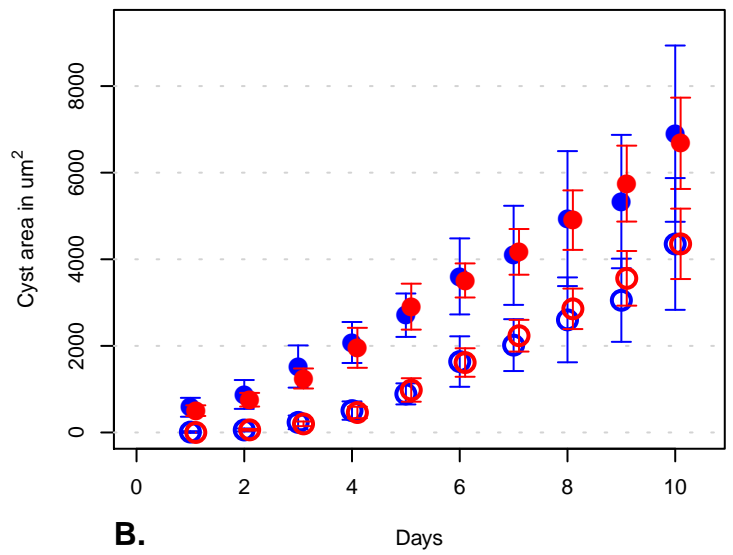
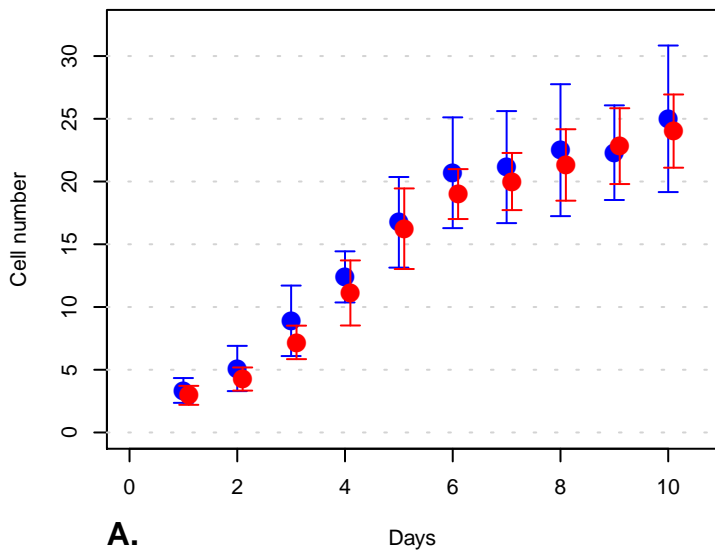


Figure S11-63) Varied deathRateLumen:  $drl = 0.04$



**Figure S11-64) Varied deathRateLumen: drl = 0.1**

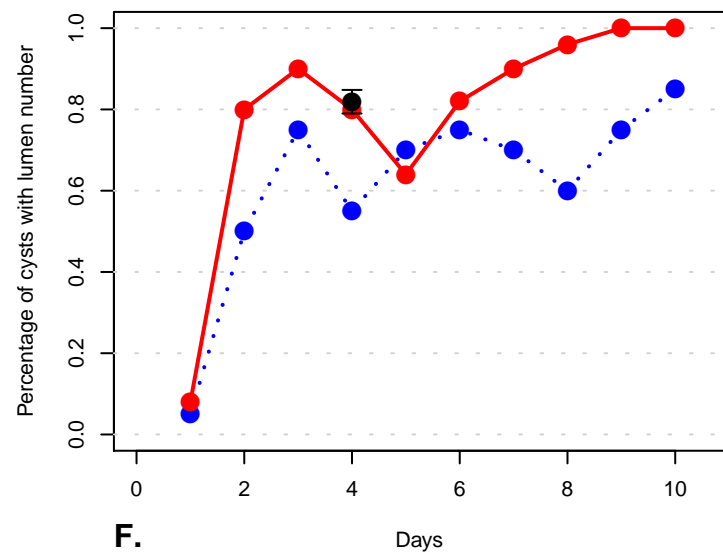
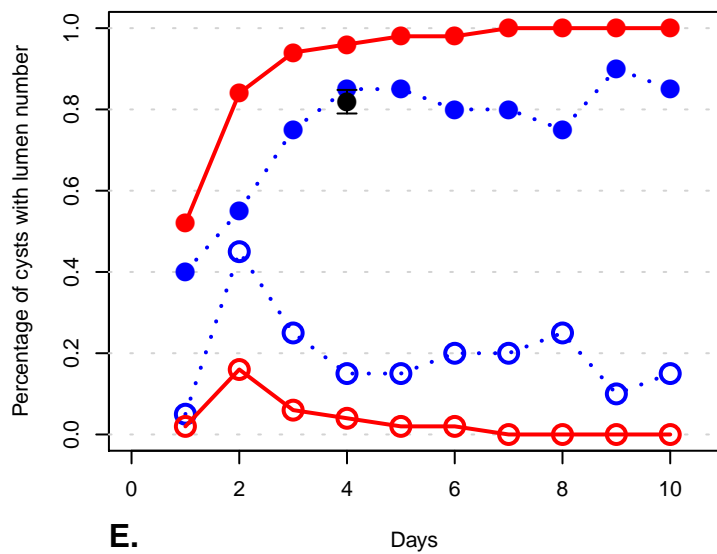
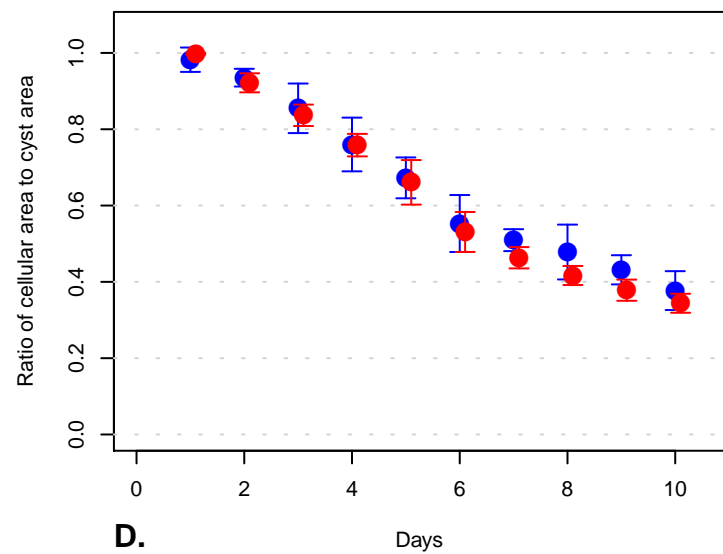
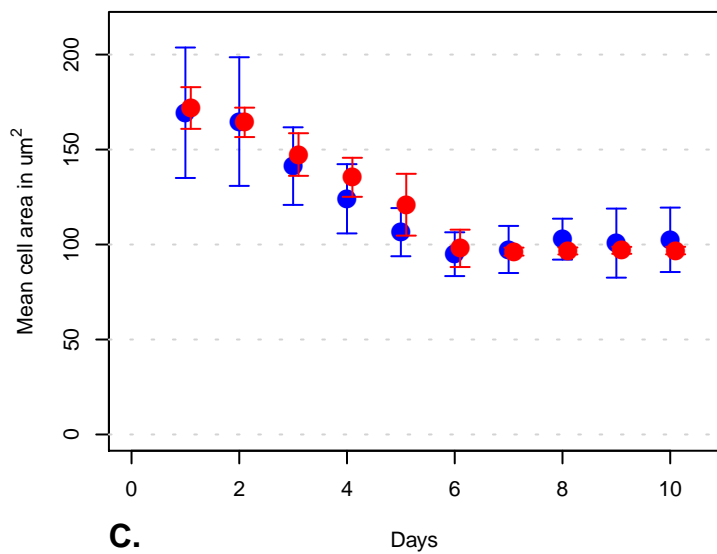
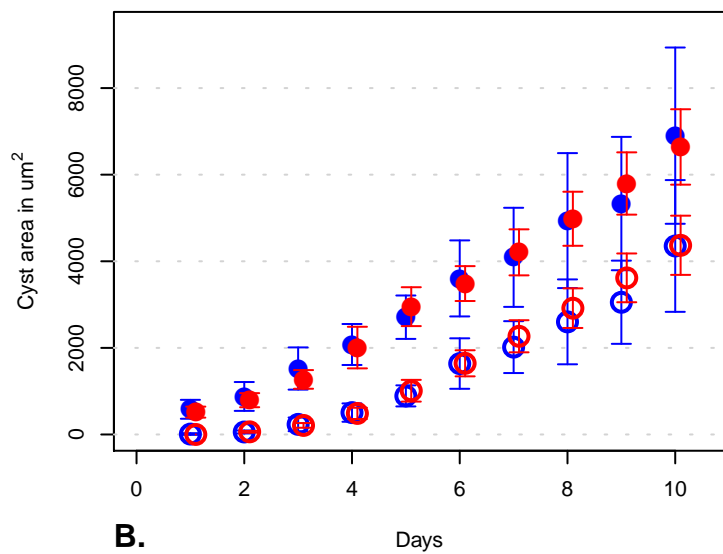
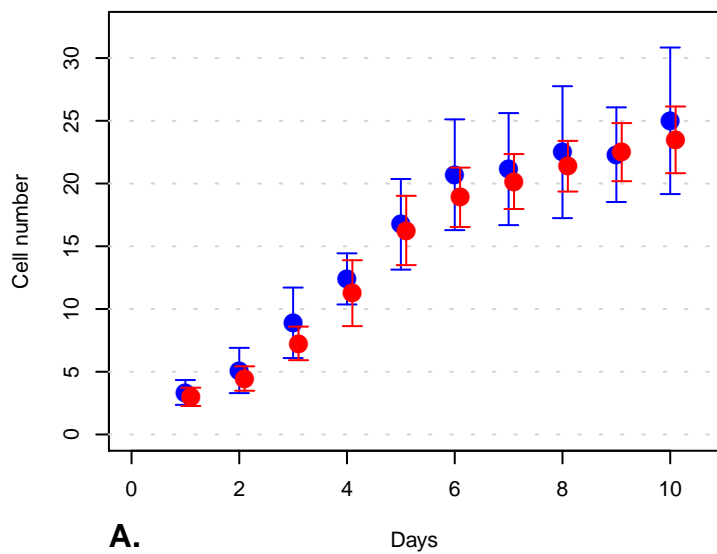




Figure S11-65) Varied deathRateEpi: dre = 0.0

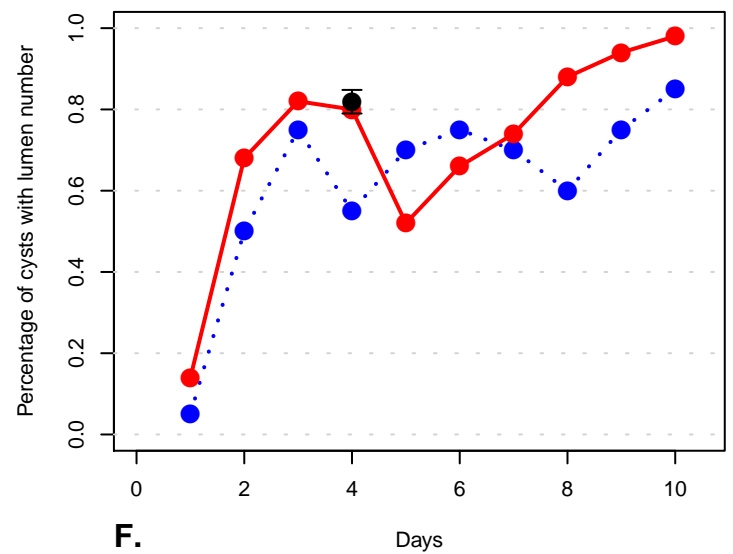
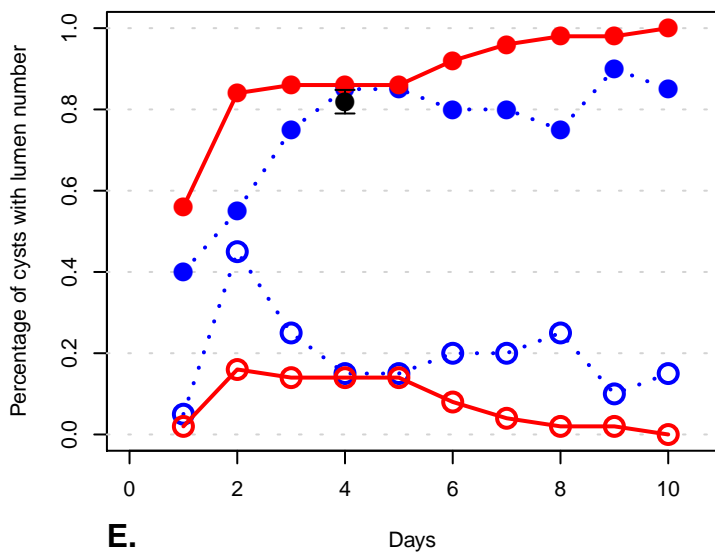
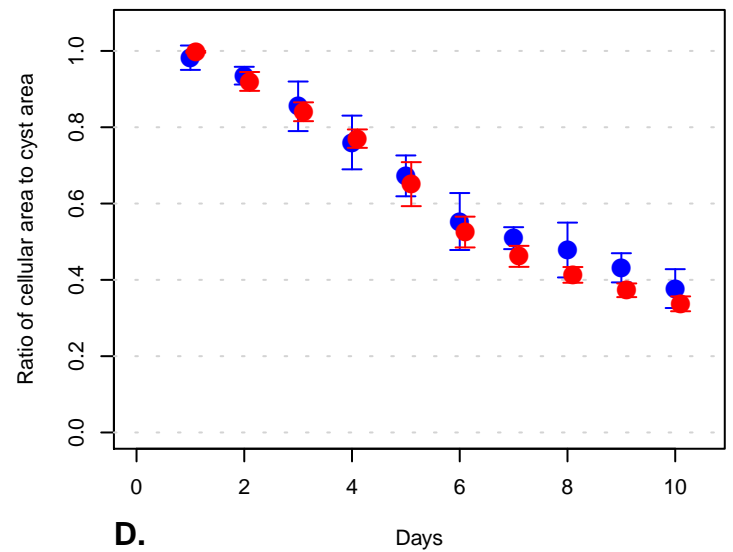
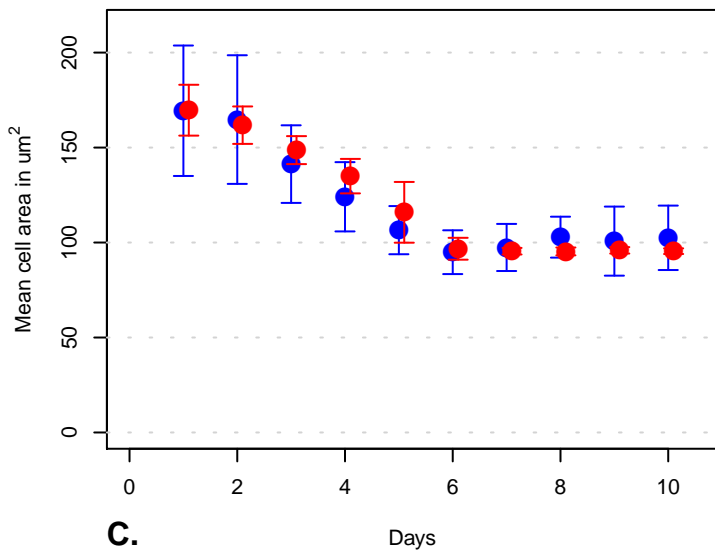
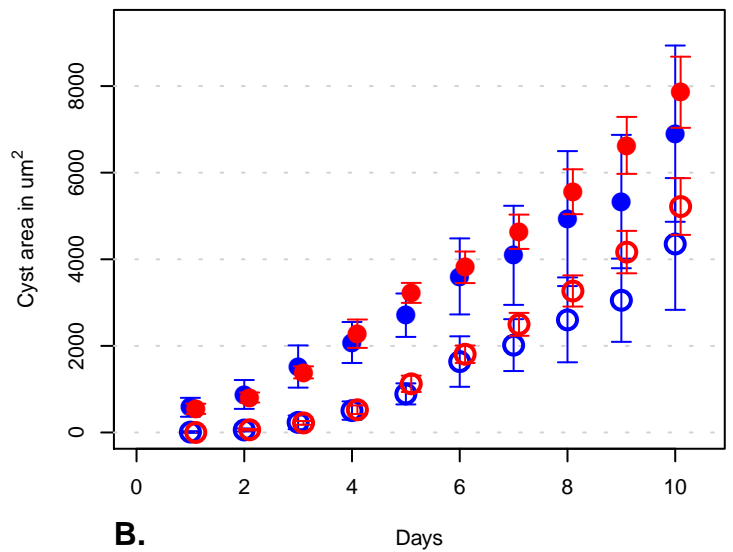
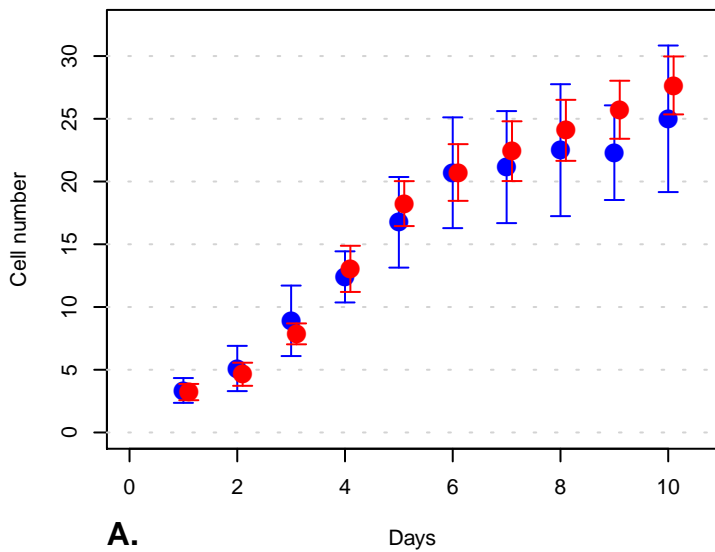


Figure S11-66) Varied deathRateEpi: dre = 0.0002

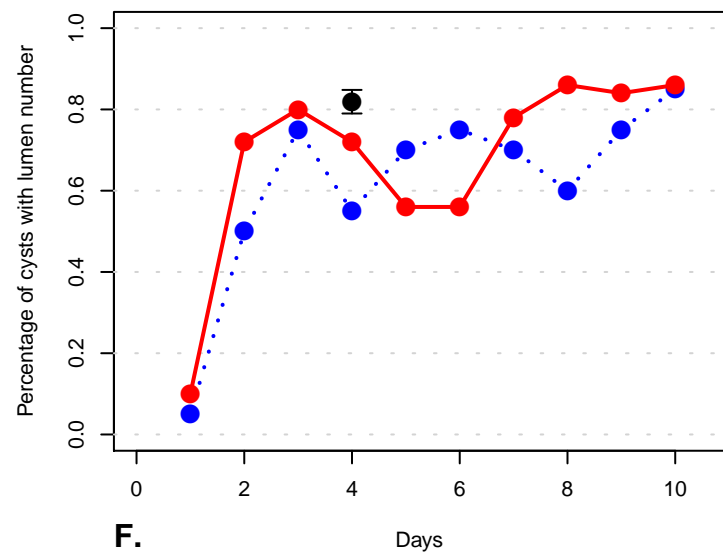
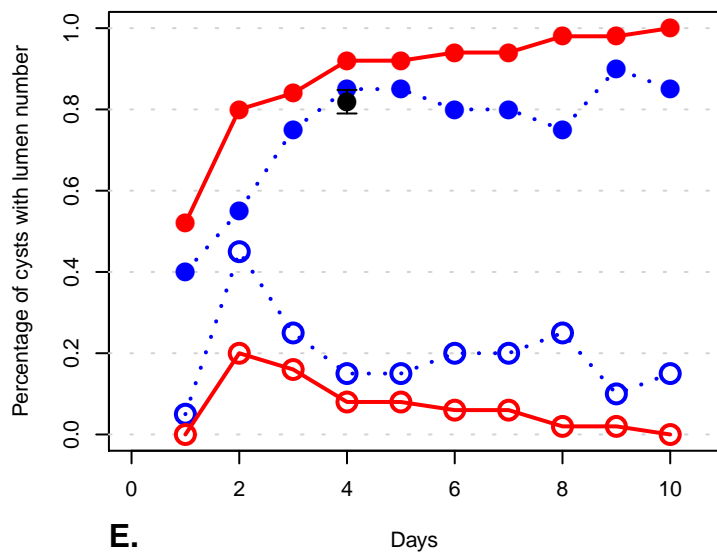
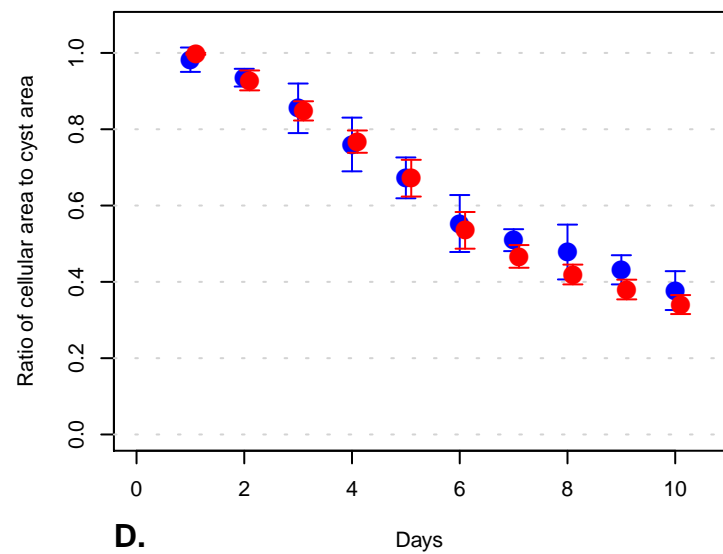
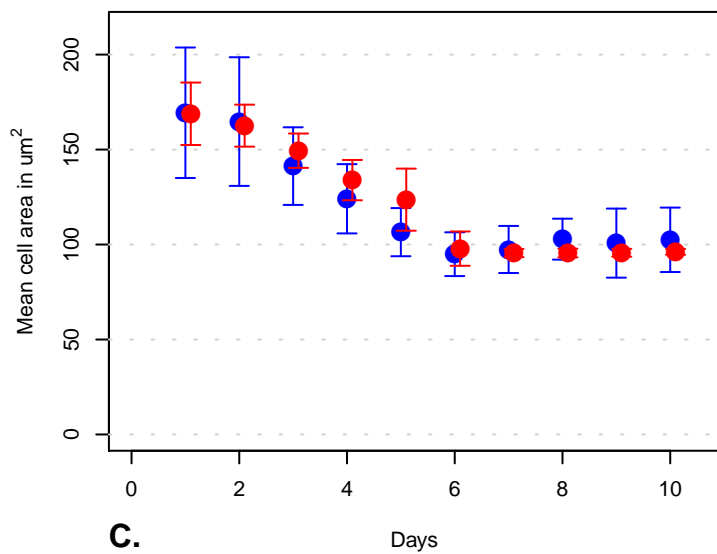
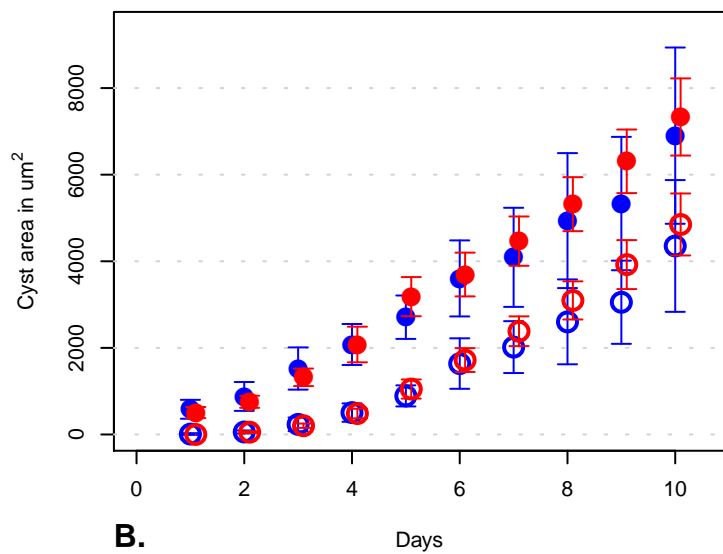
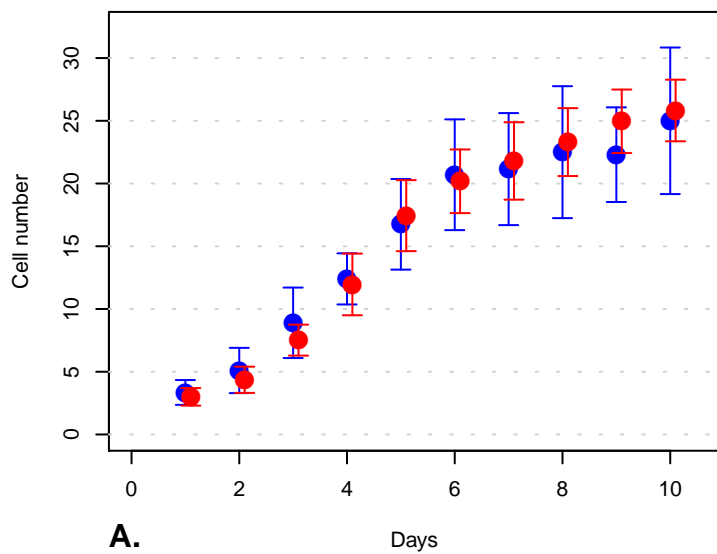
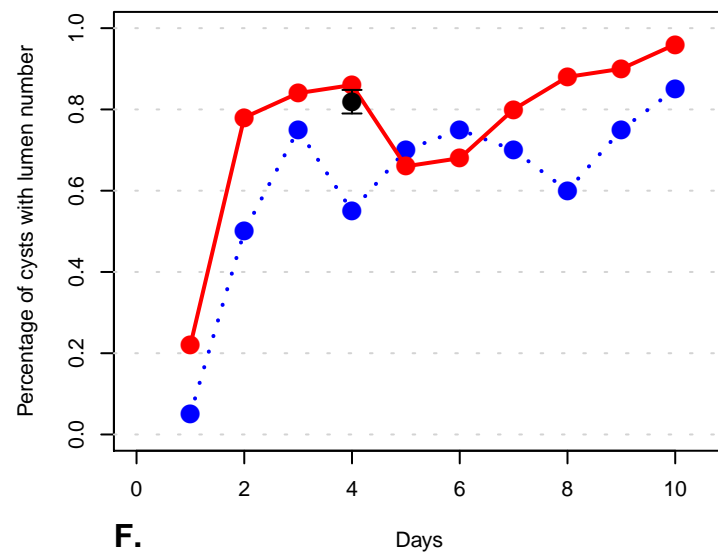
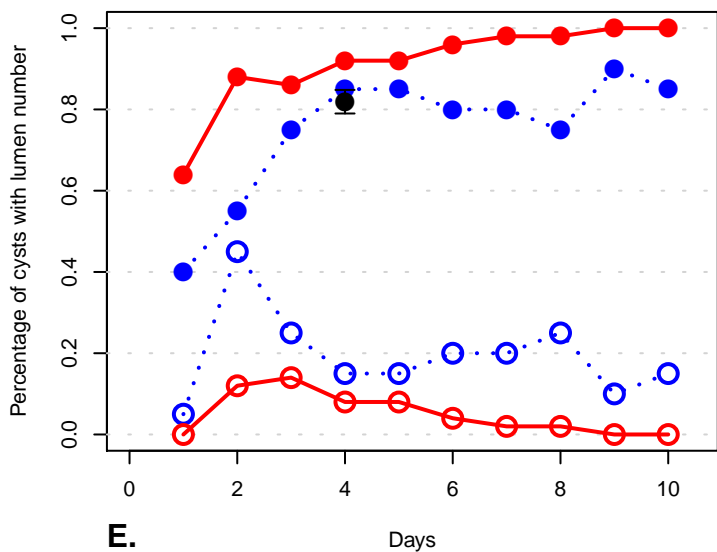
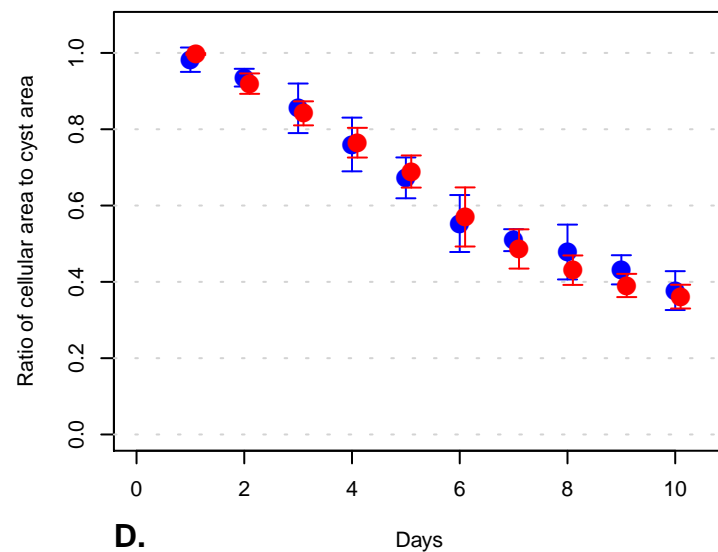
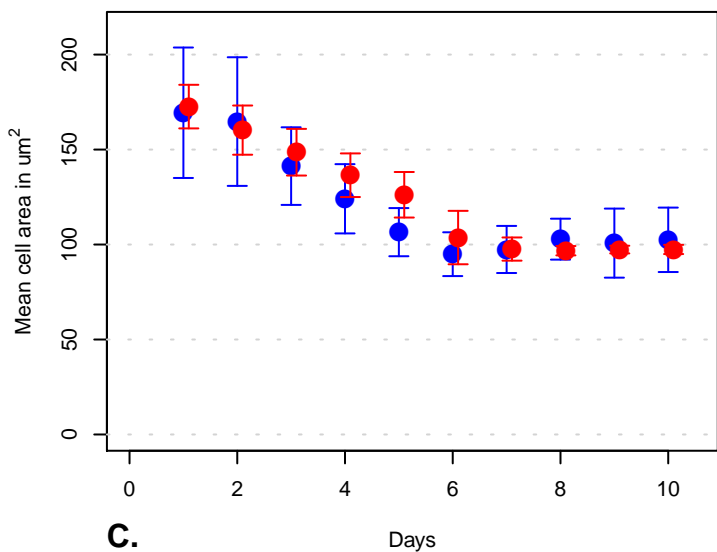
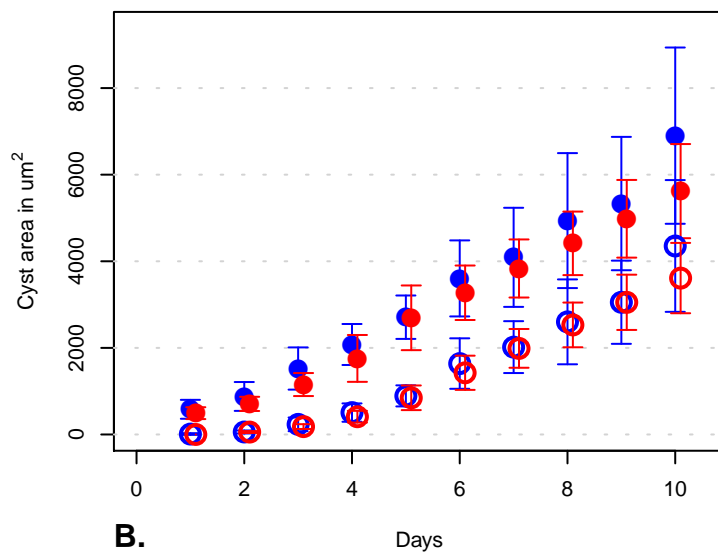
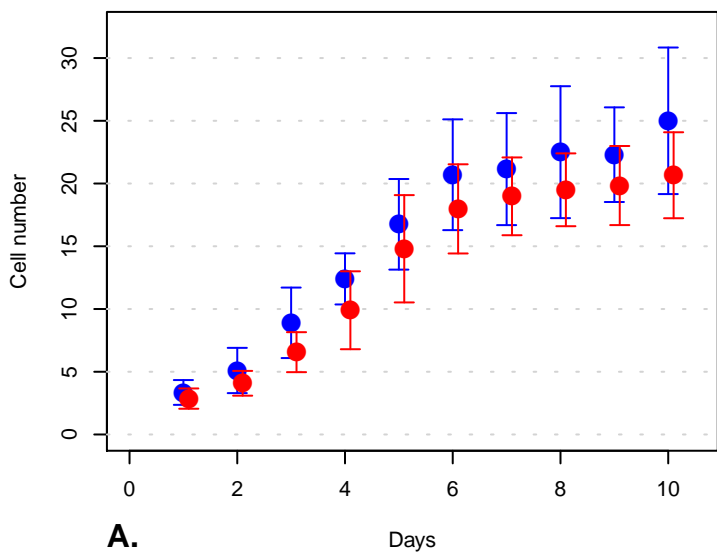
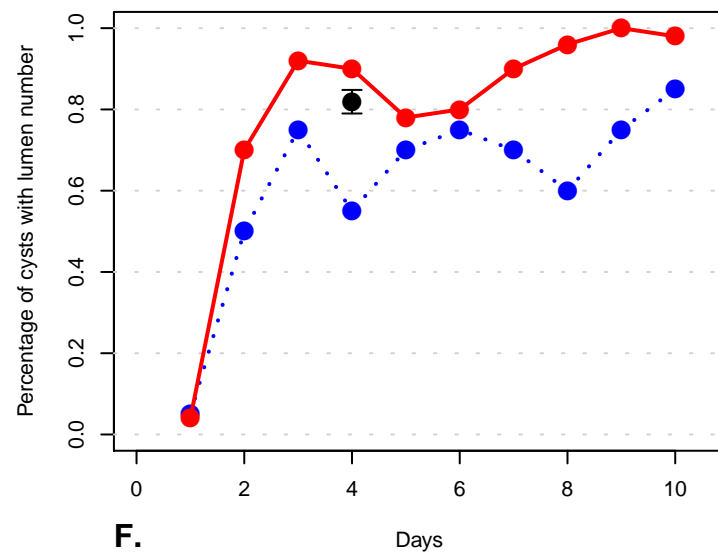
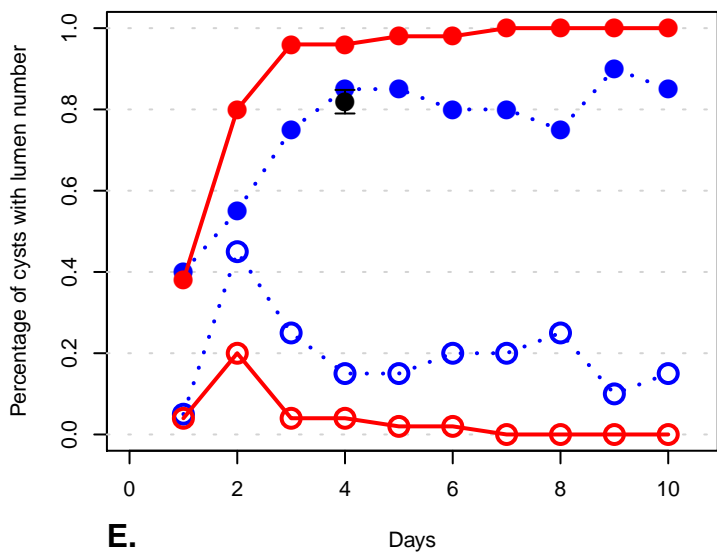
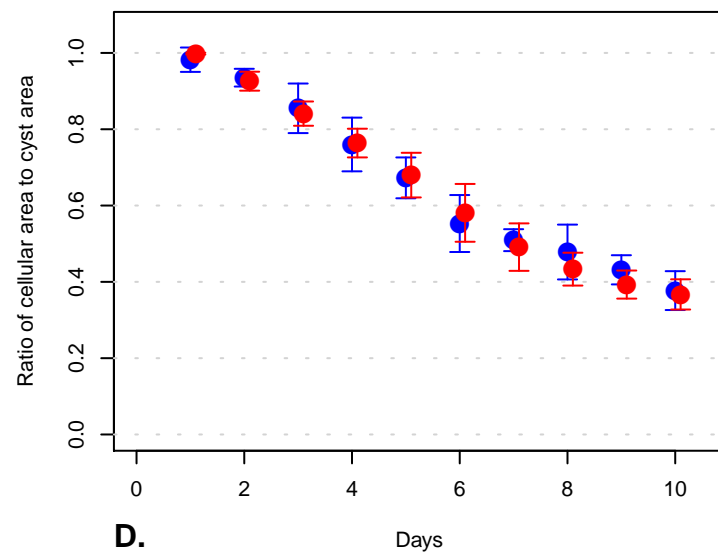
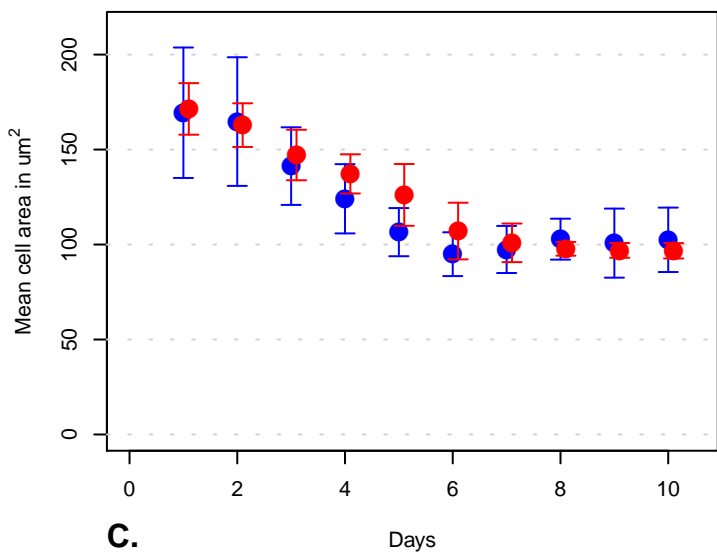
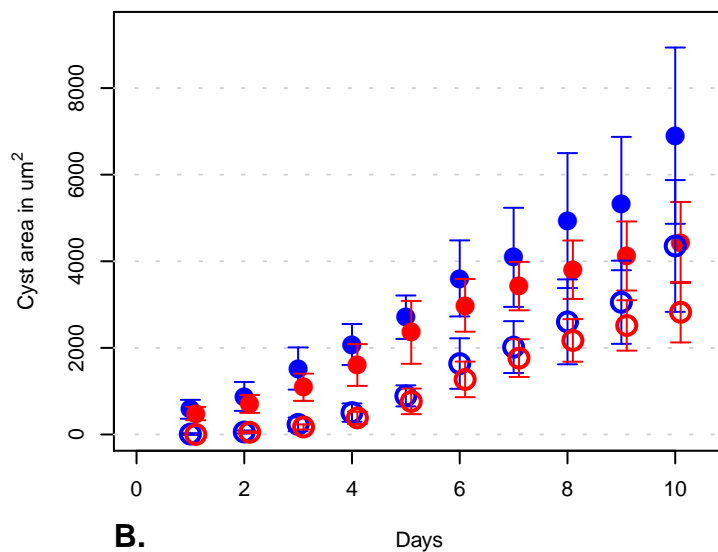
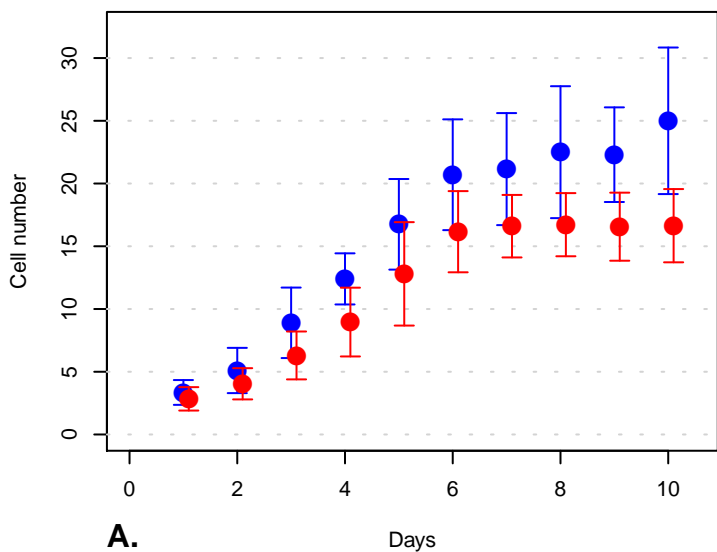


Figure S11-67) Varied deathRateEpi: dre = 0.0008



**Figure S11-68) Varied deathRateEpi: dre = 0.0016**



**Figure S11–69) Varied dyingShrinkRate: dsr = 1.75**

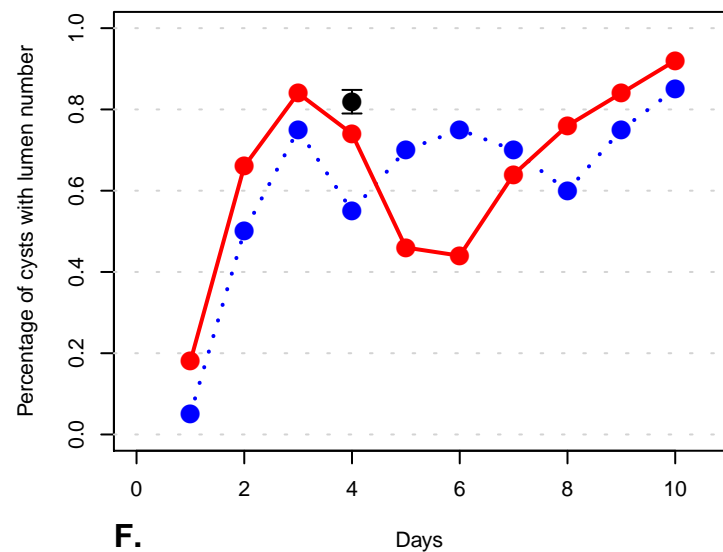
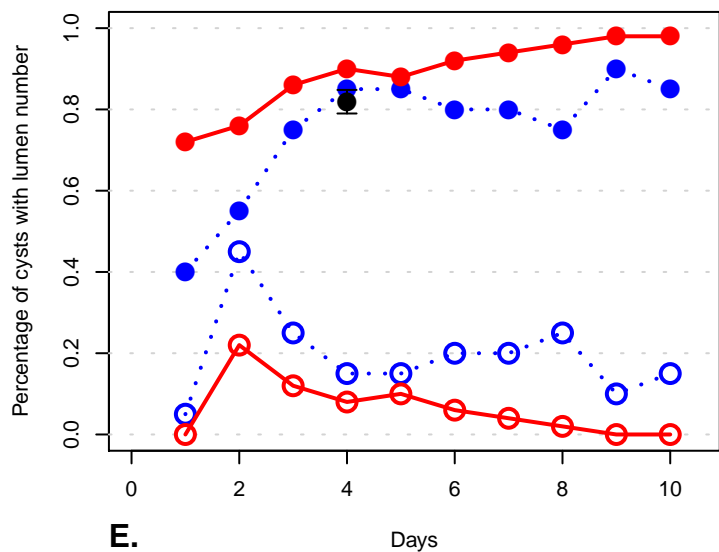
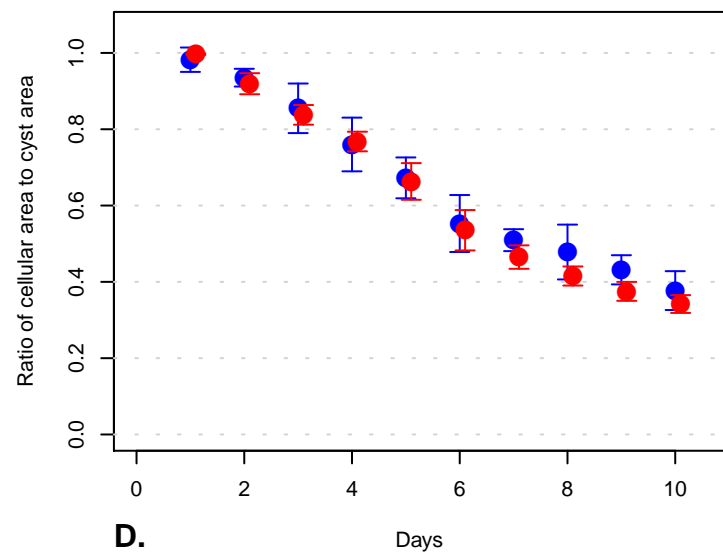
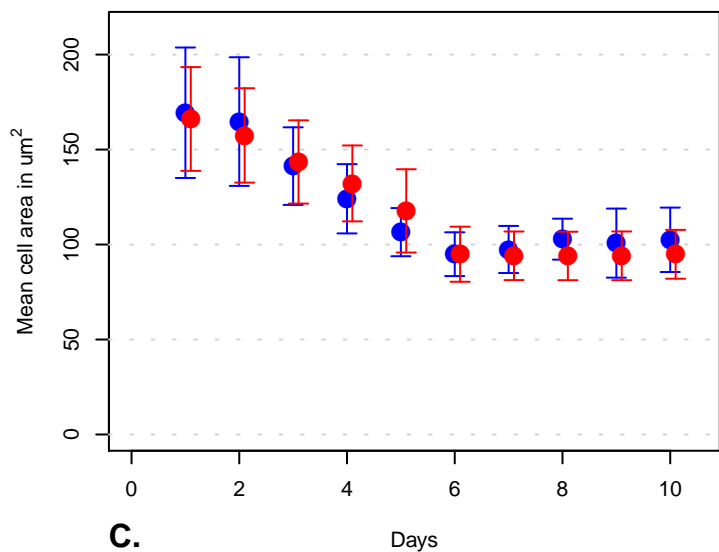
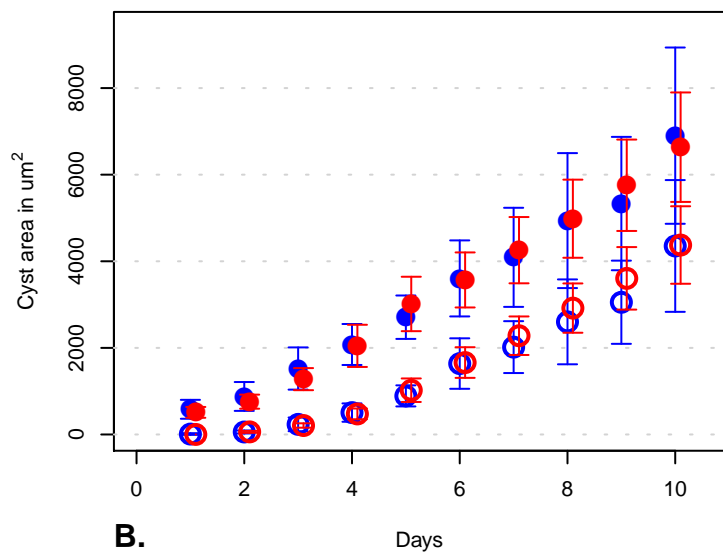
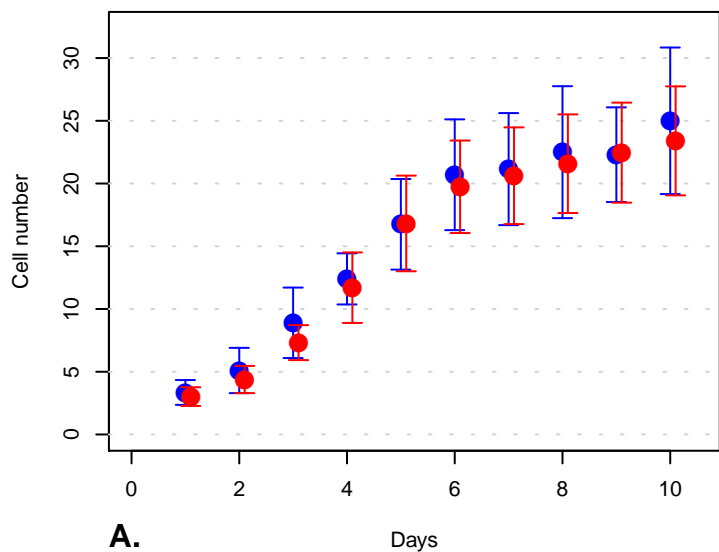
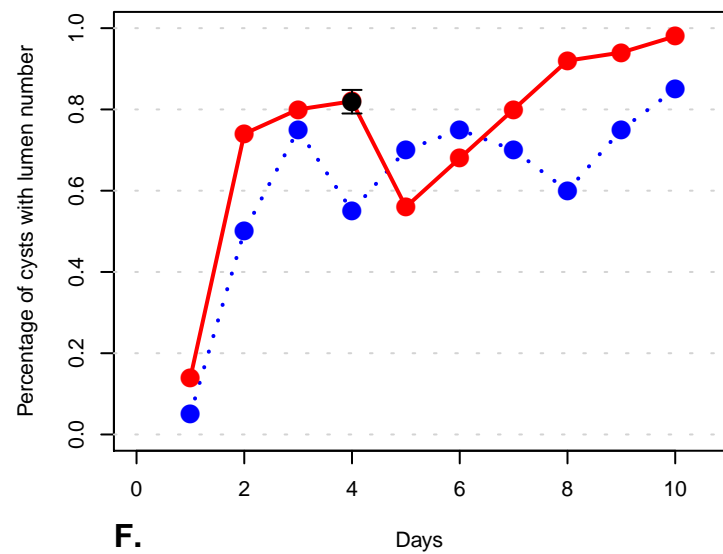
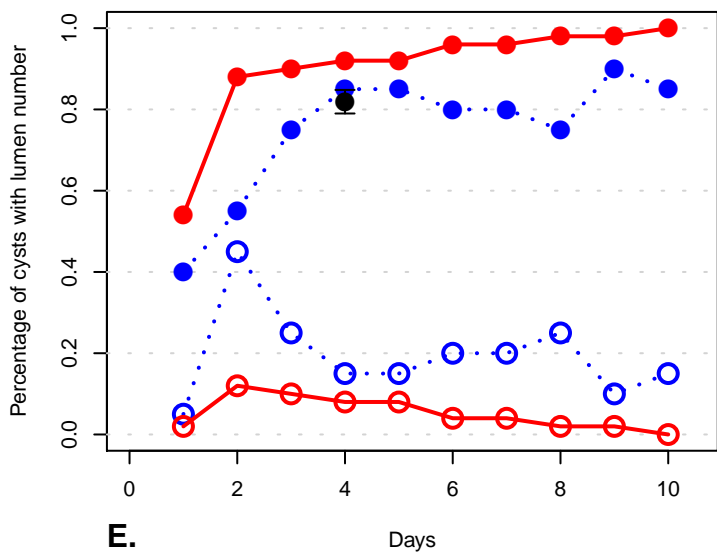
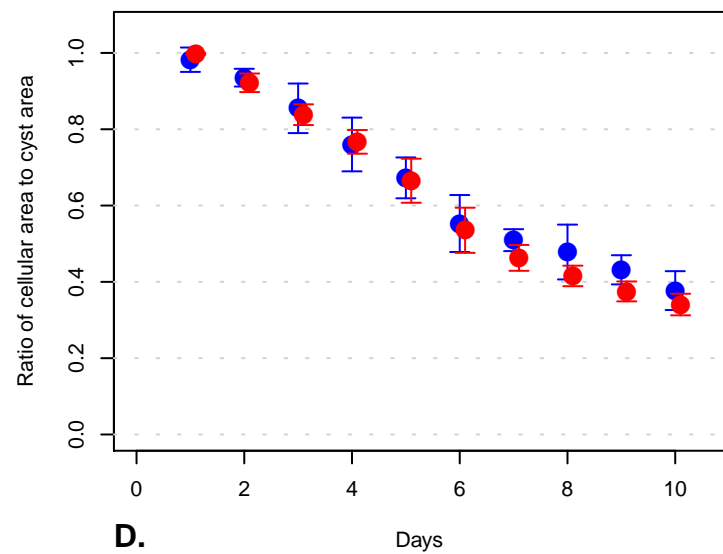
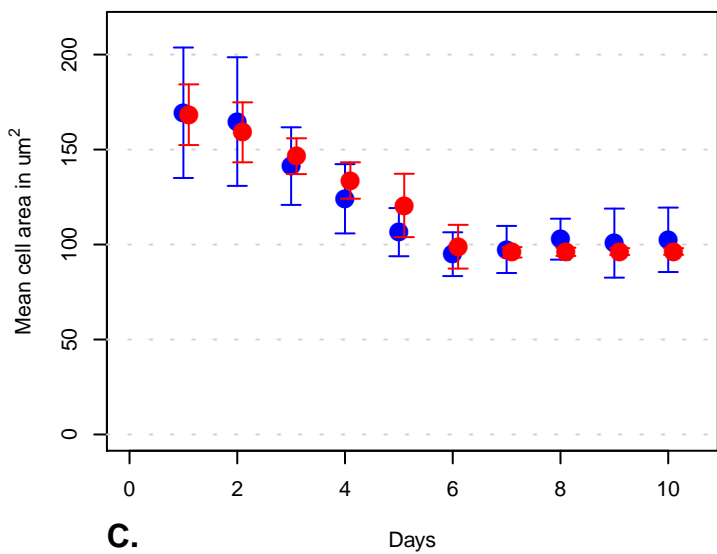
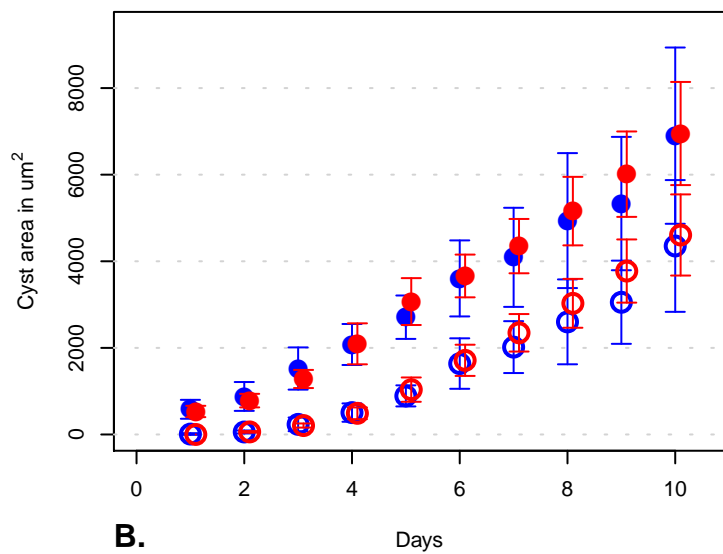
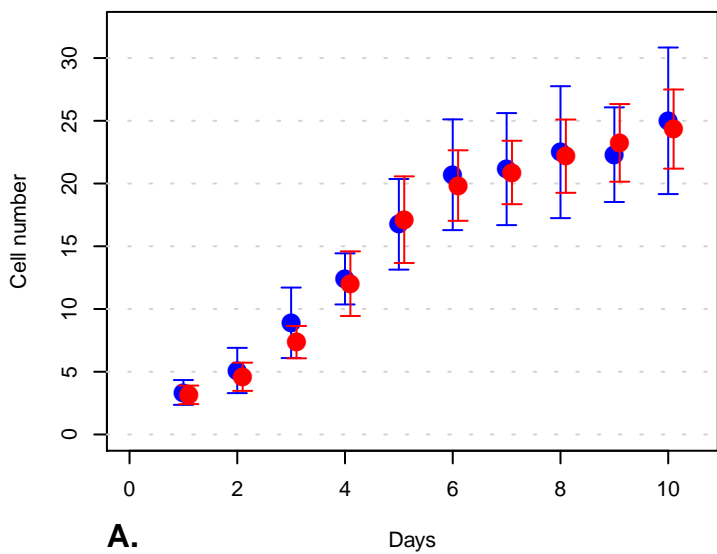
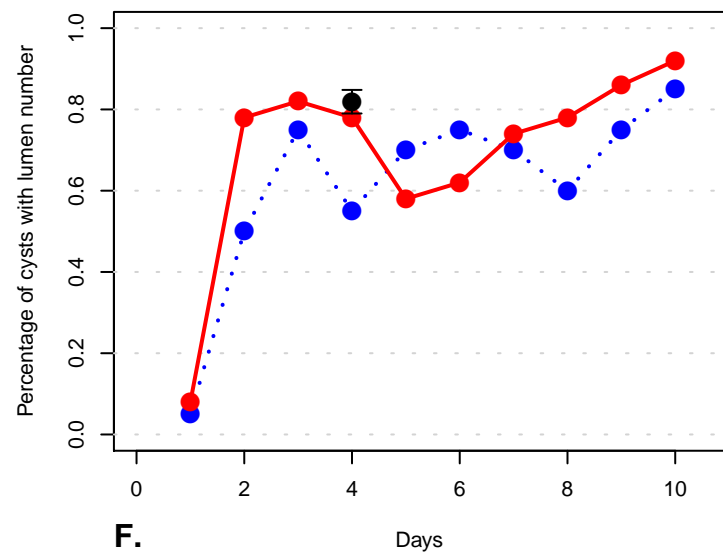
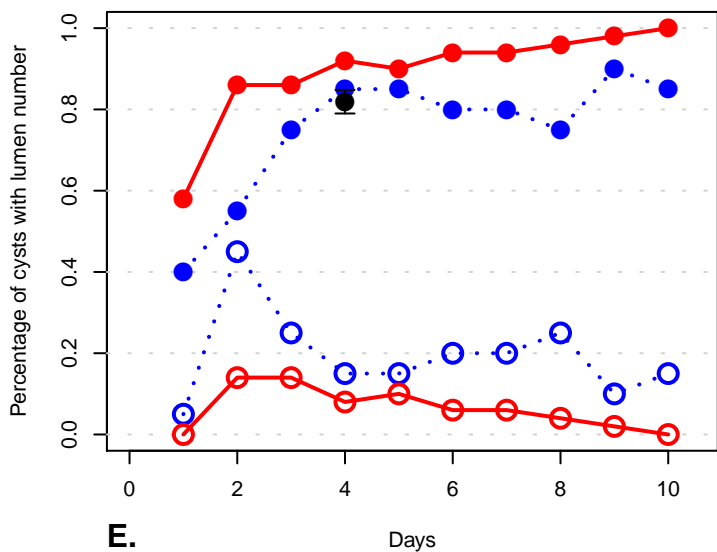
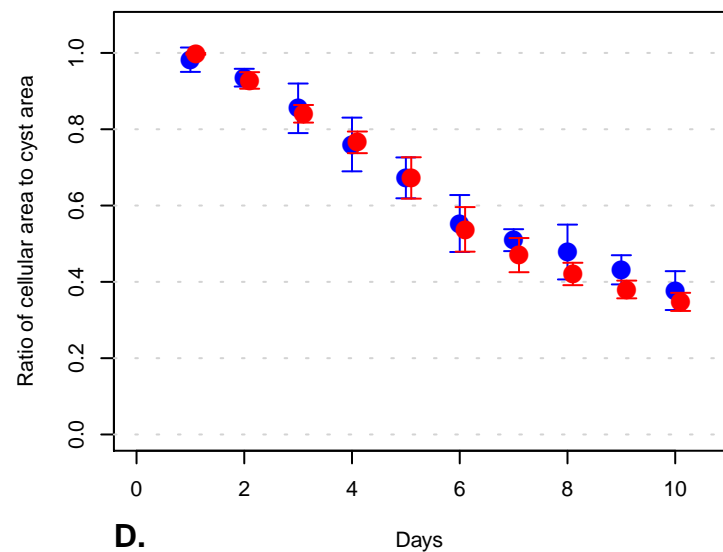
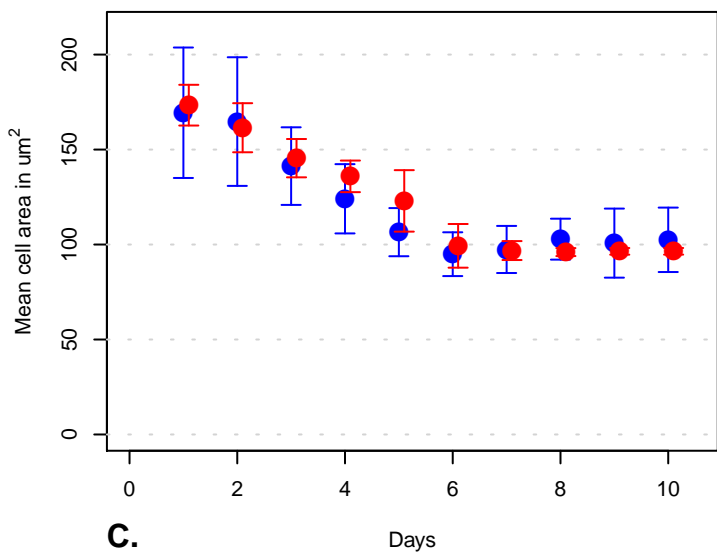
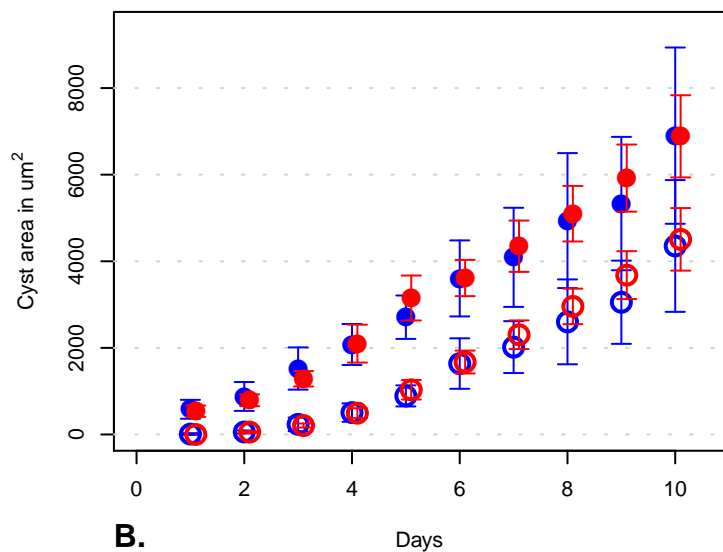
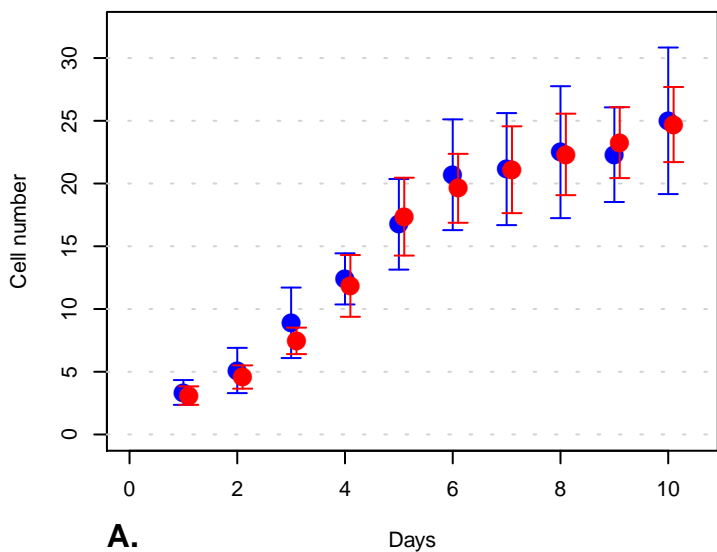


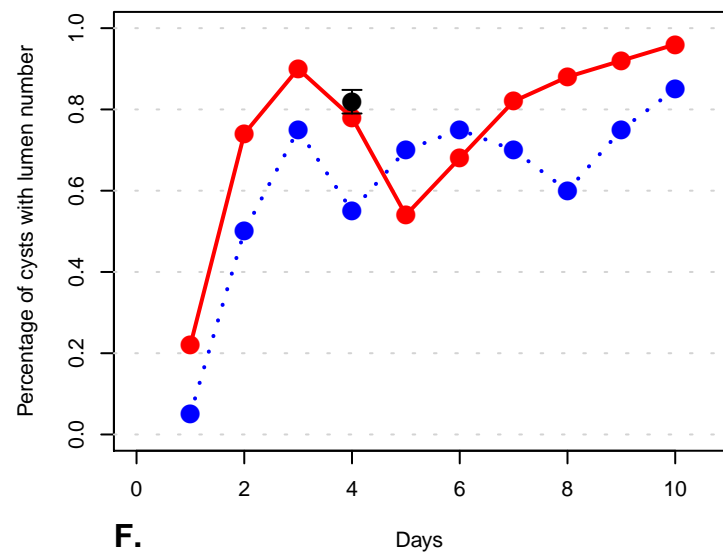
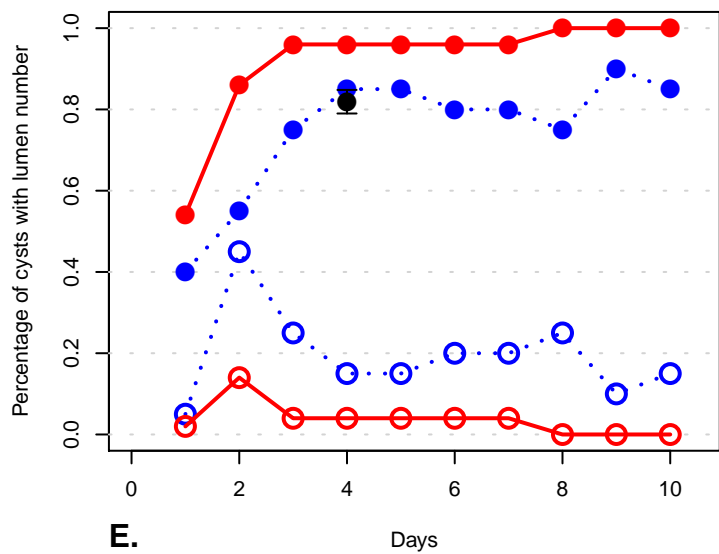
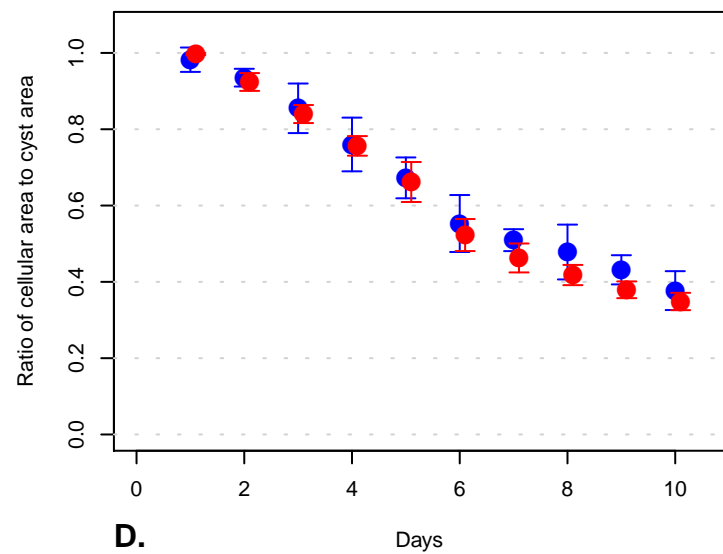
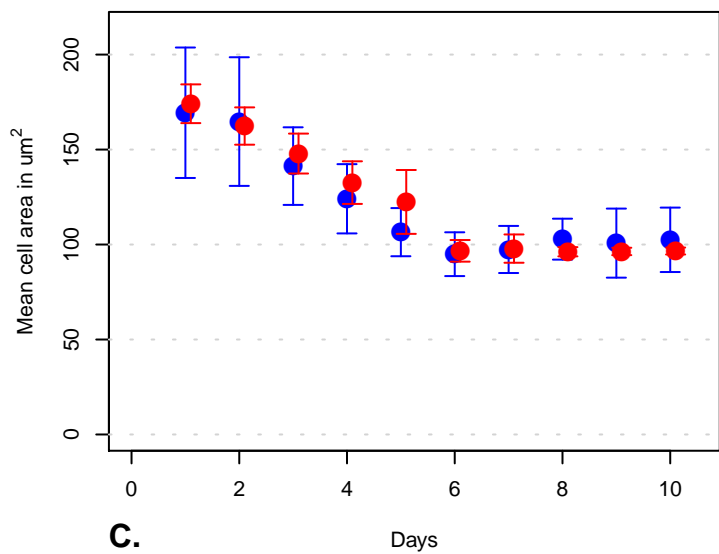
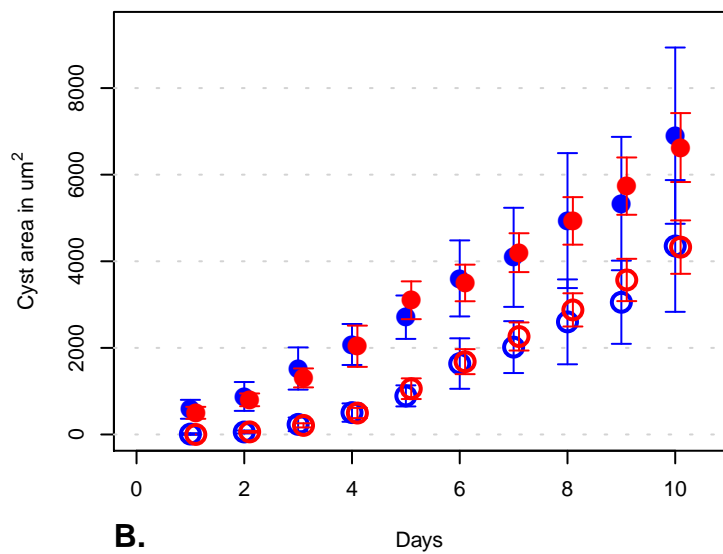
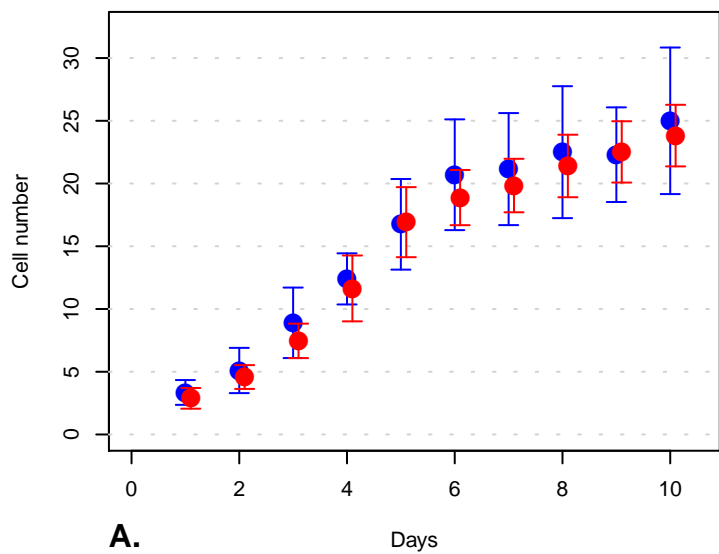
Figure S11-70) Varied dyingShrinkRate:  $d_{sr} = 4.5$



**Figure S11-71) Varied dyingShrinkRate: dsr = 13.5**

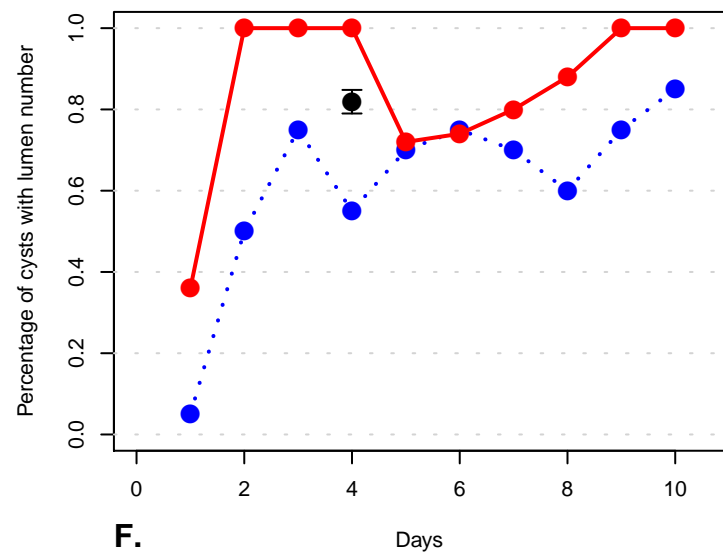
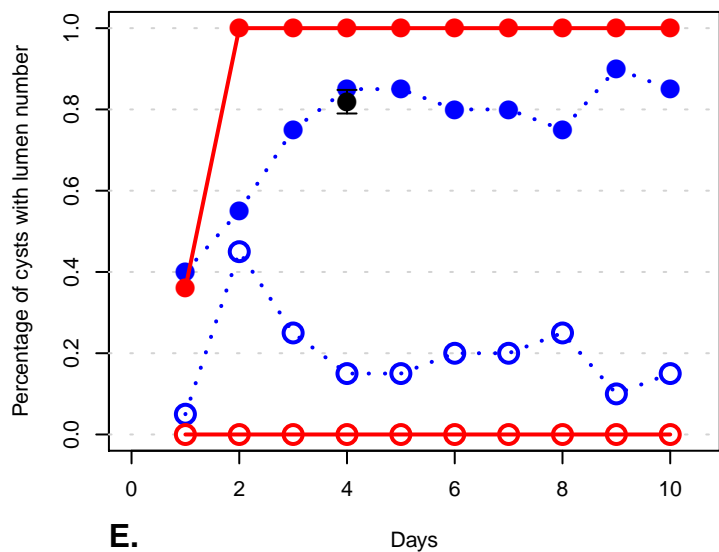
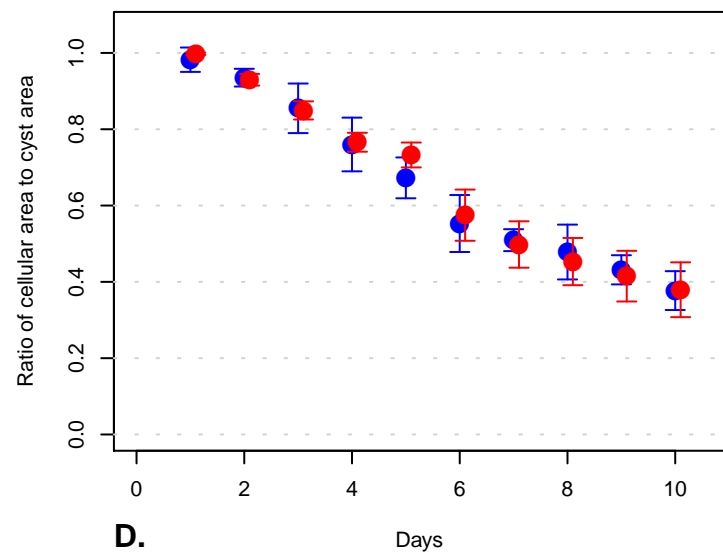
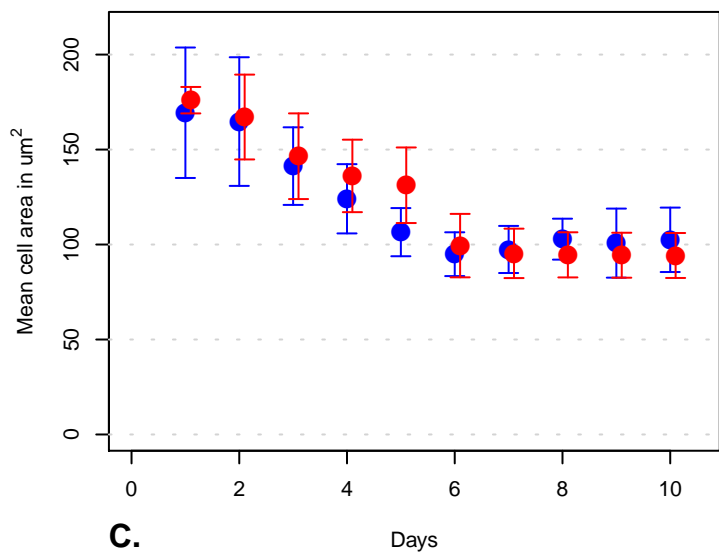
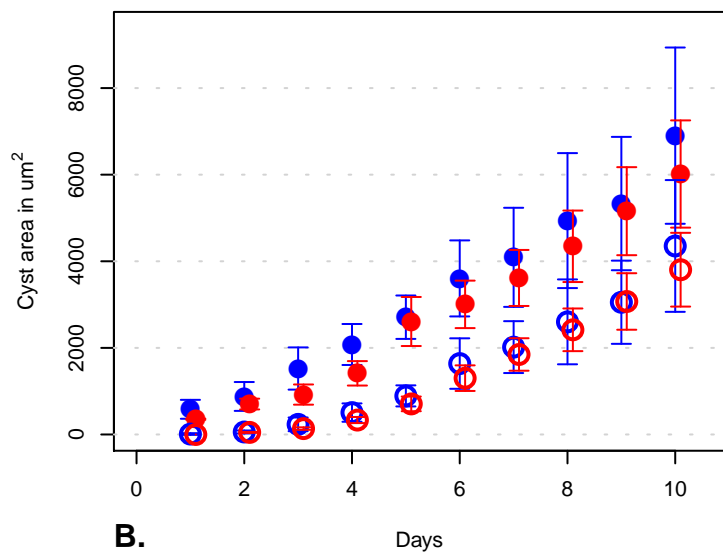
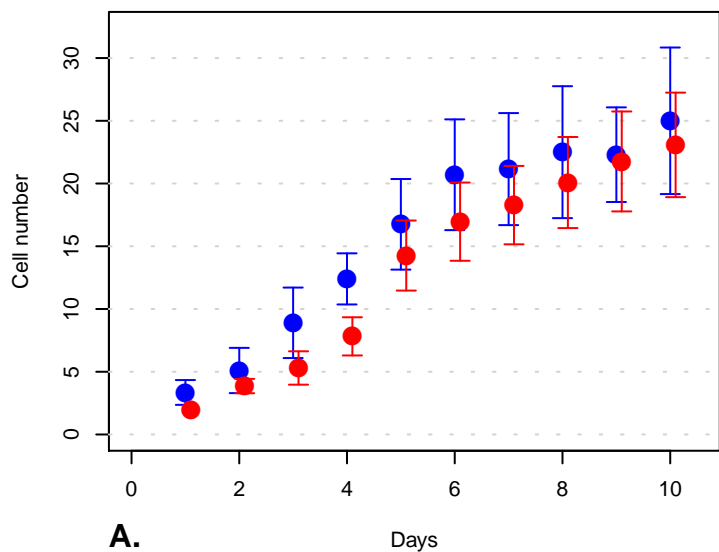


**Figure S11-72) Varied dyingShrinkRate: dsr = 18**





**Figure S11-73) Varied clusterProb: cp = 0**



**Figure S11-74) Varied clusterProb: cp = 0.4**

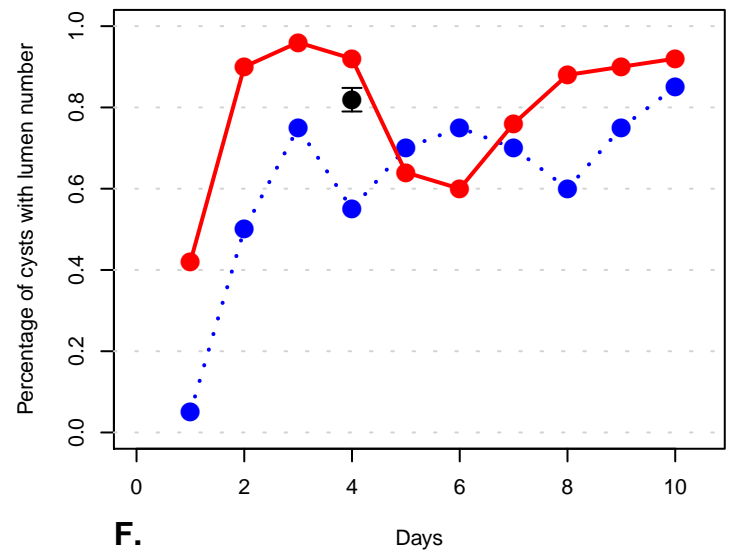
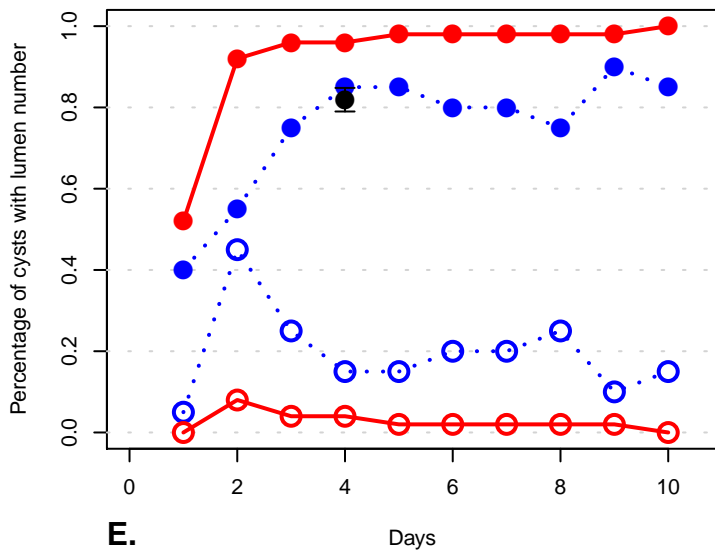
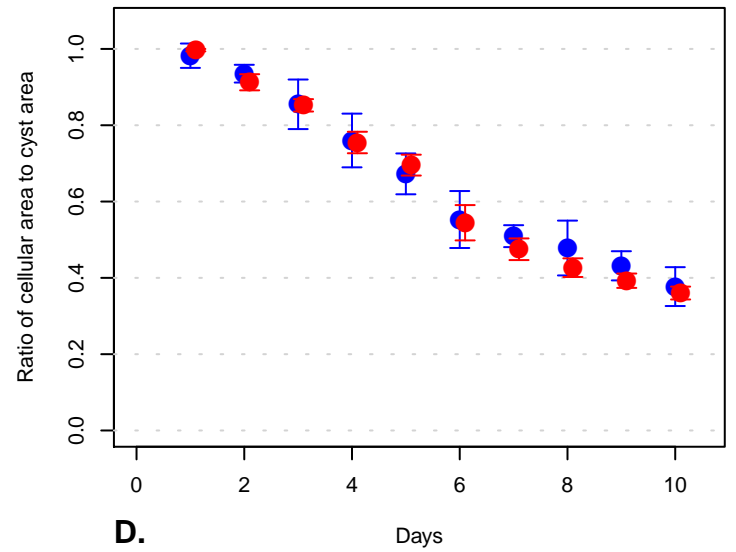
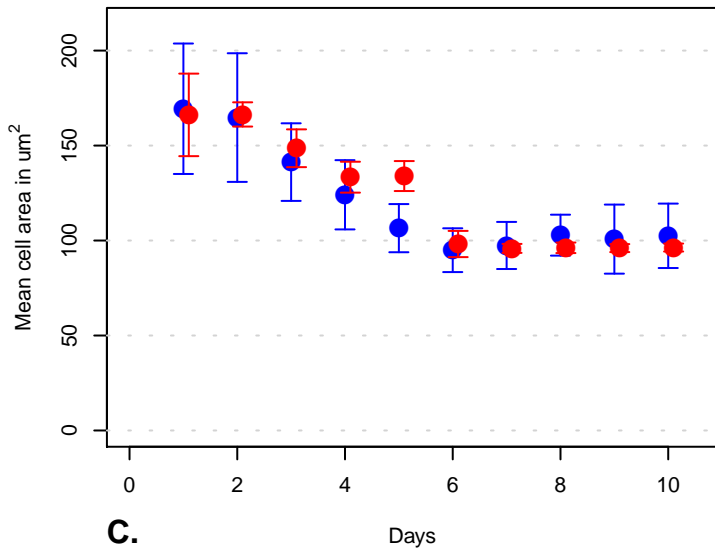
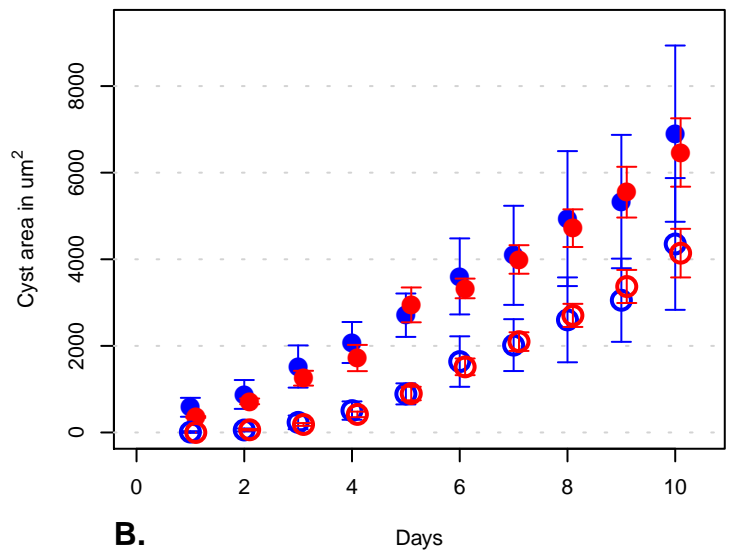
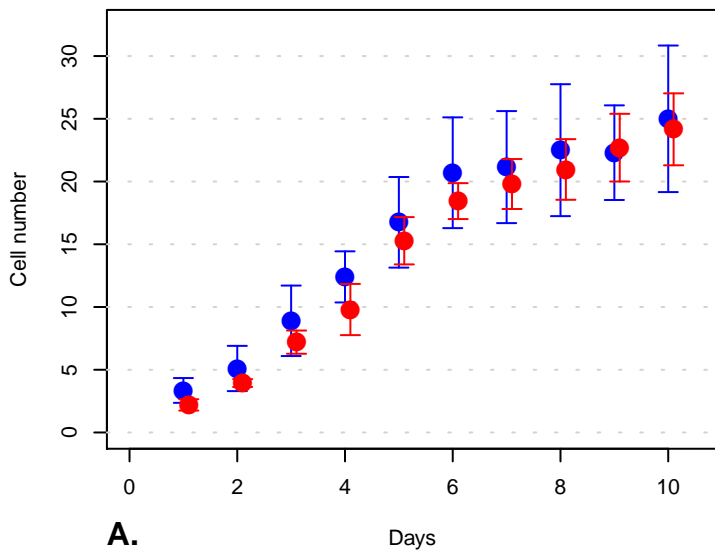


Figure S11-75) Varied clusterProb: cp = 0.9

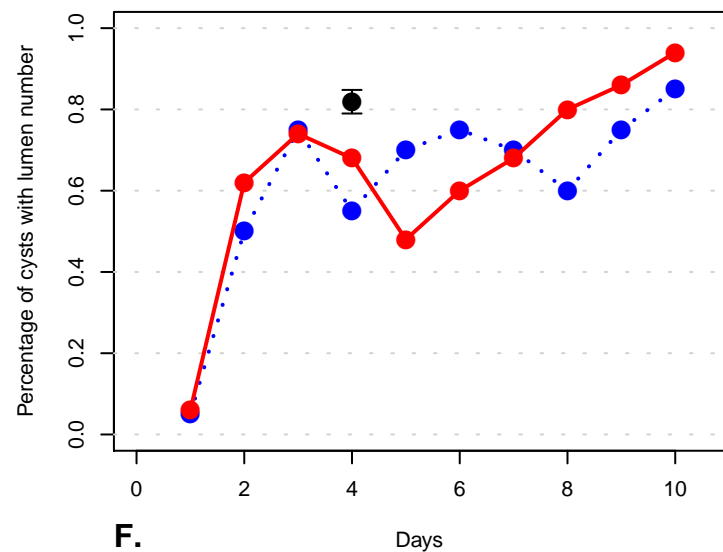
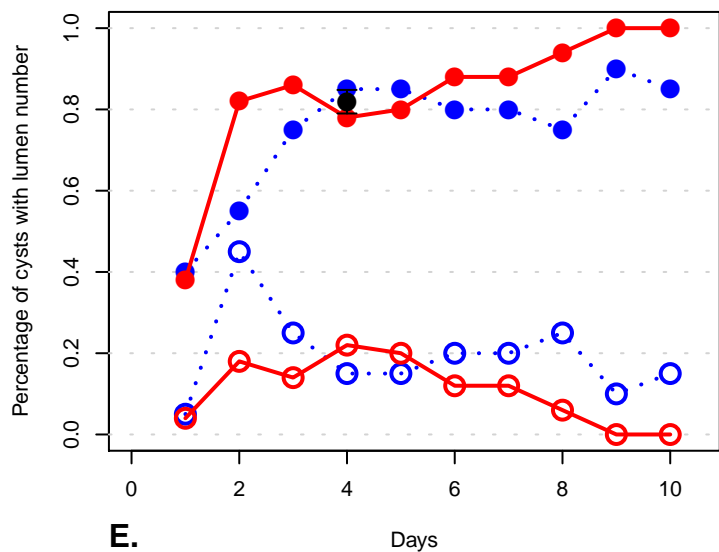
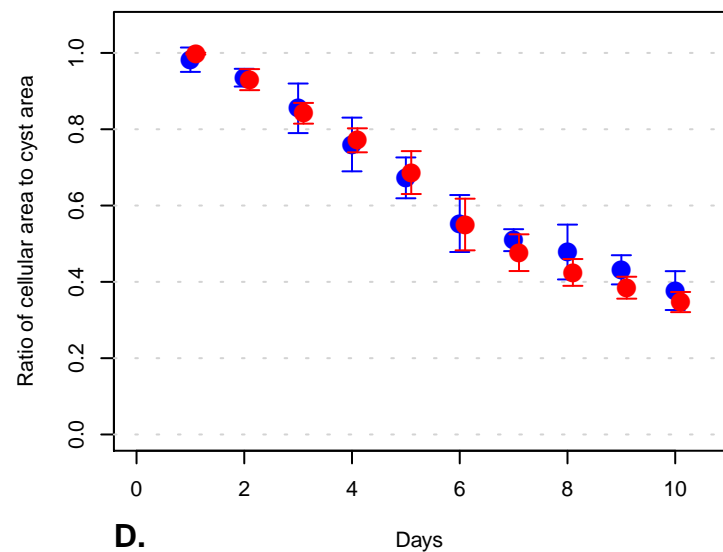
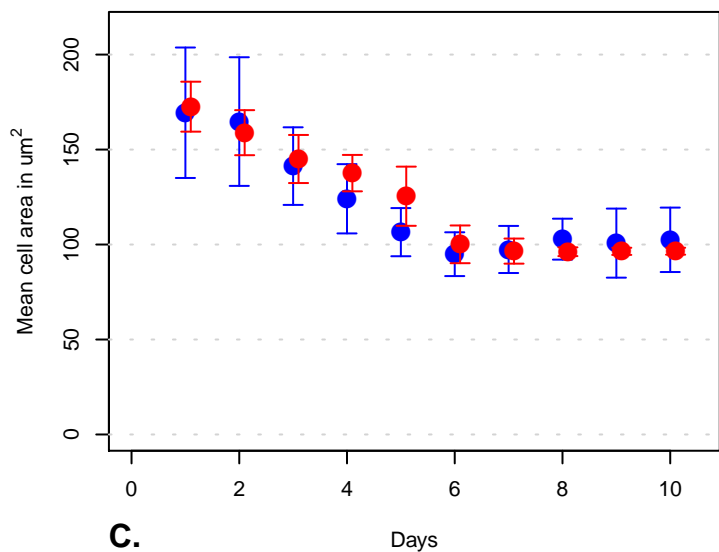
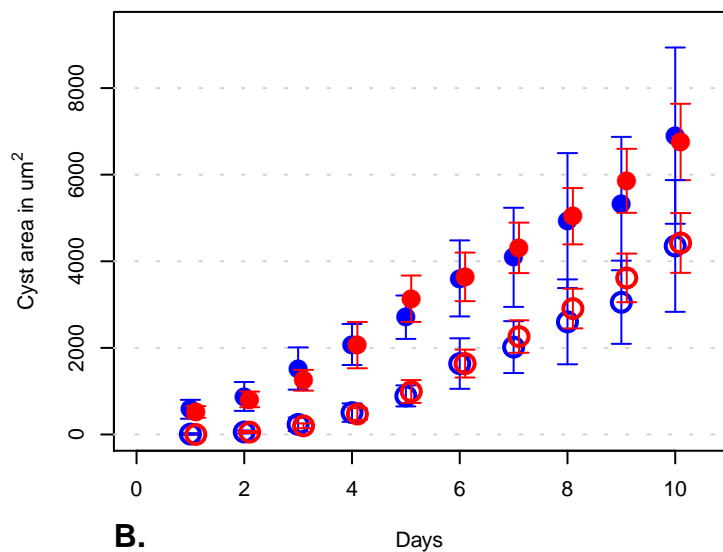
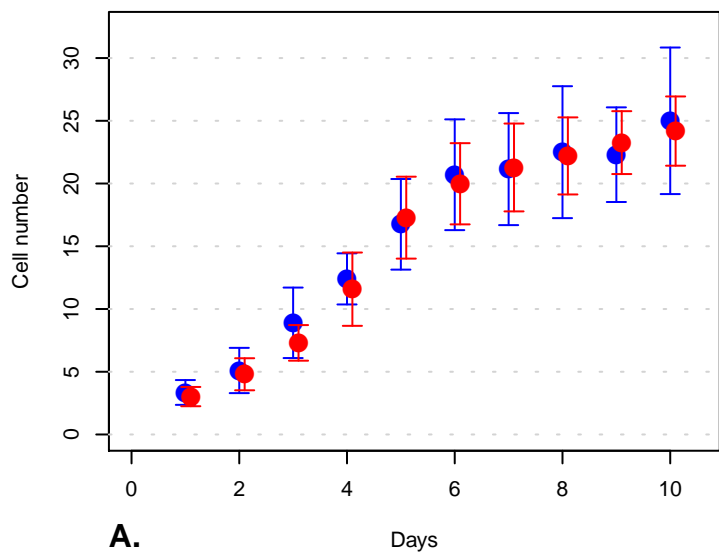


Figure S11-76) Varied clusterProb: cp = 1

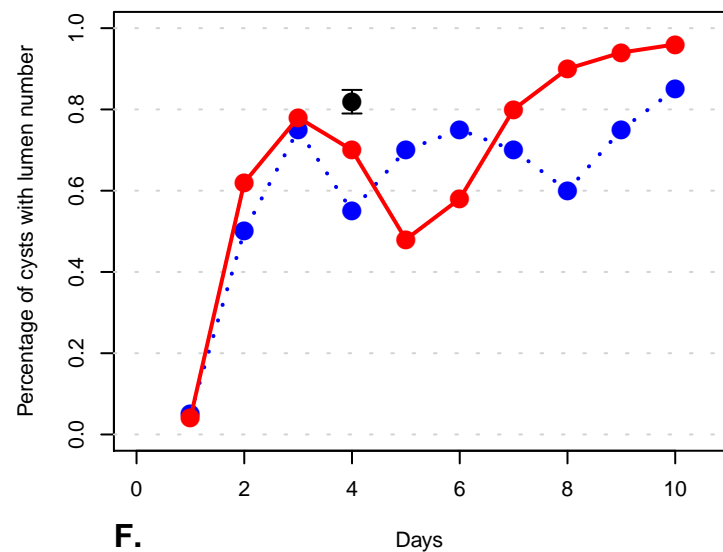
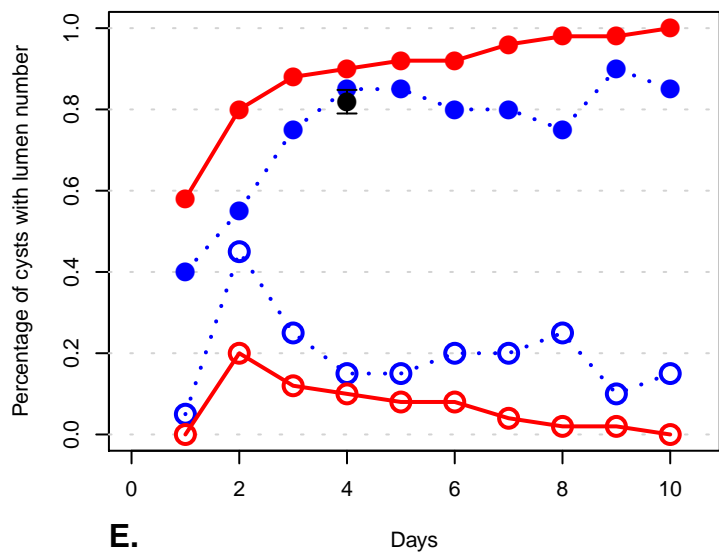
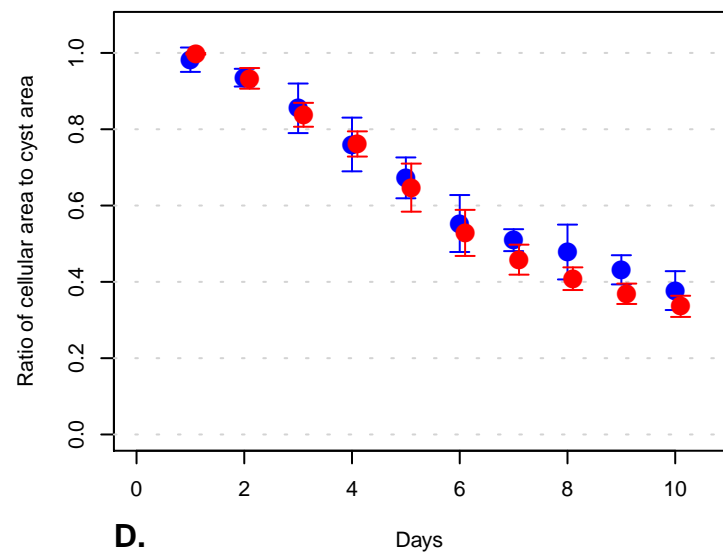
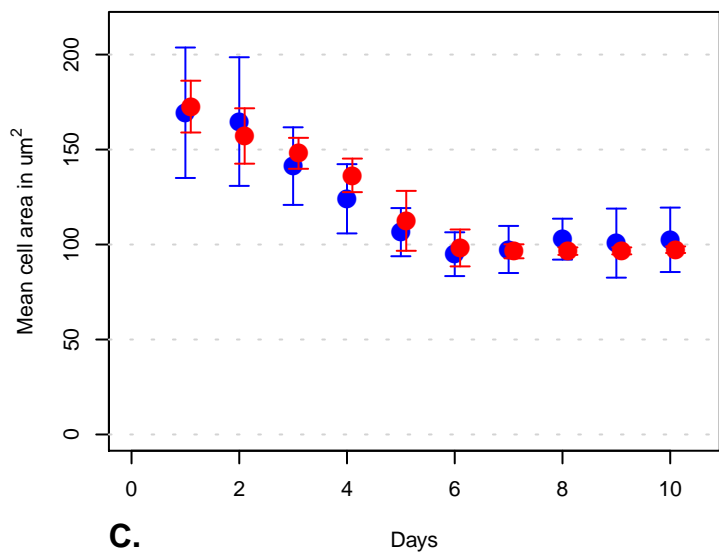
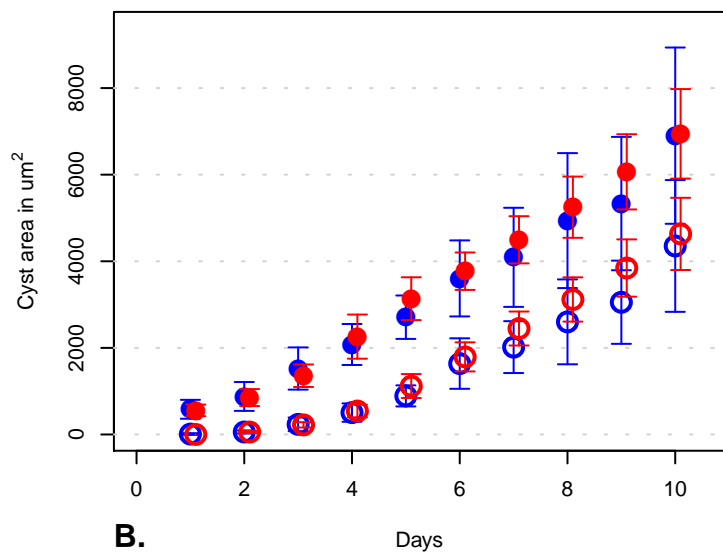
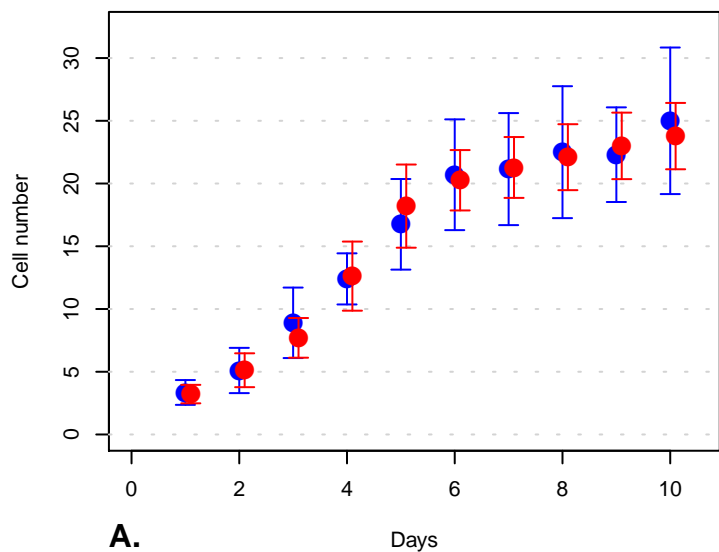


Figure S11-77) Varied stableRatio: sr = 0.125

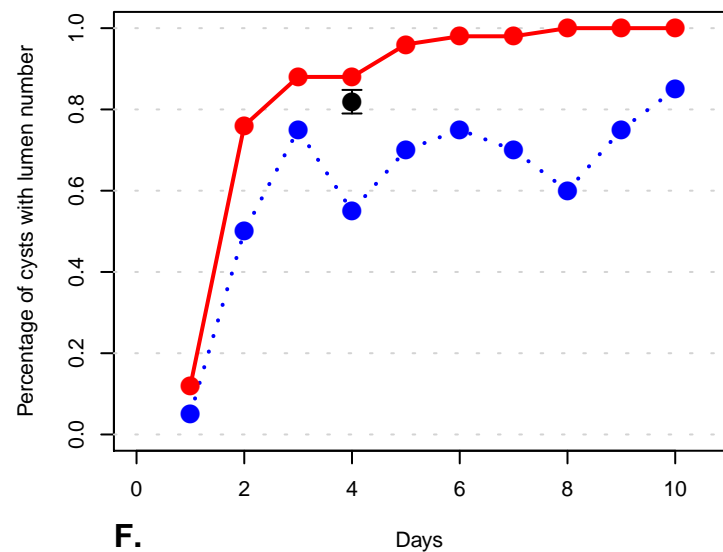
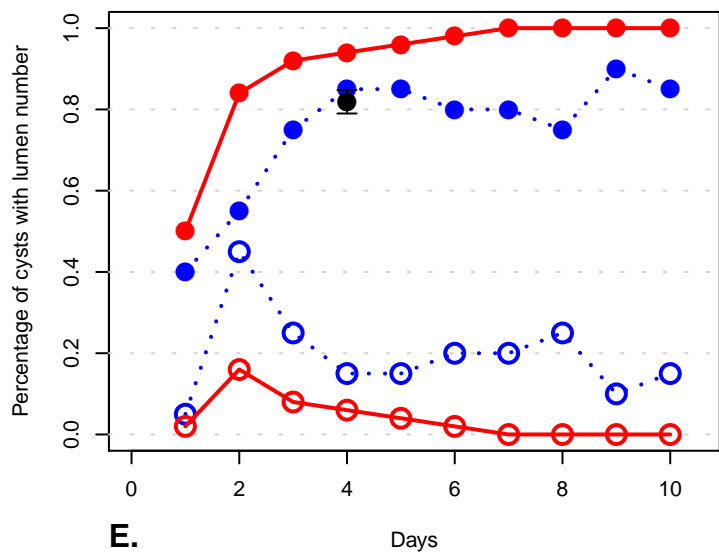
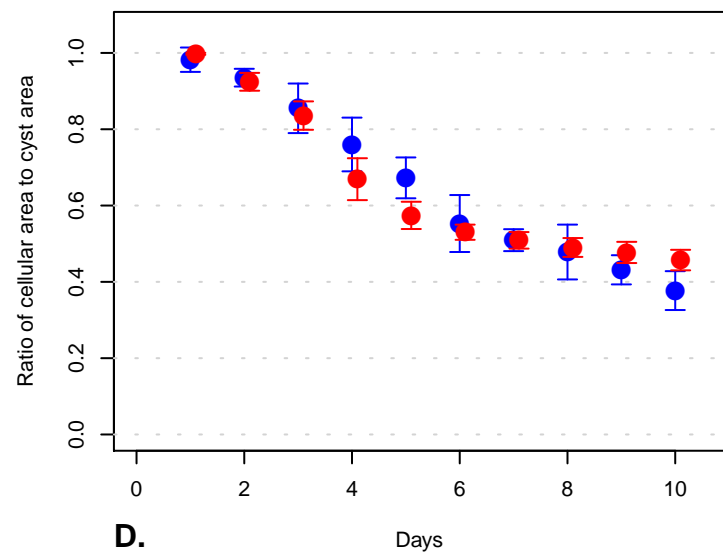
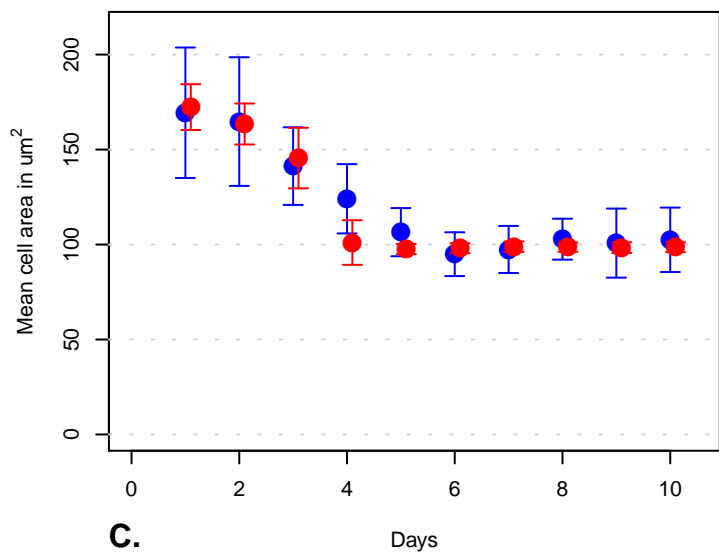
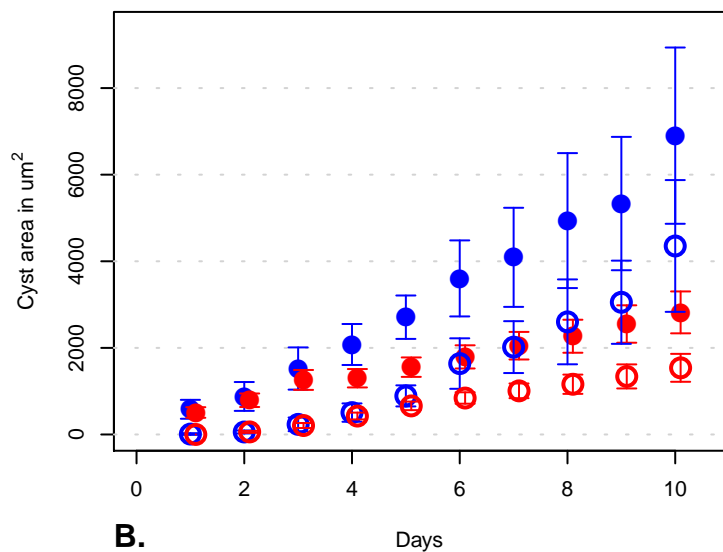
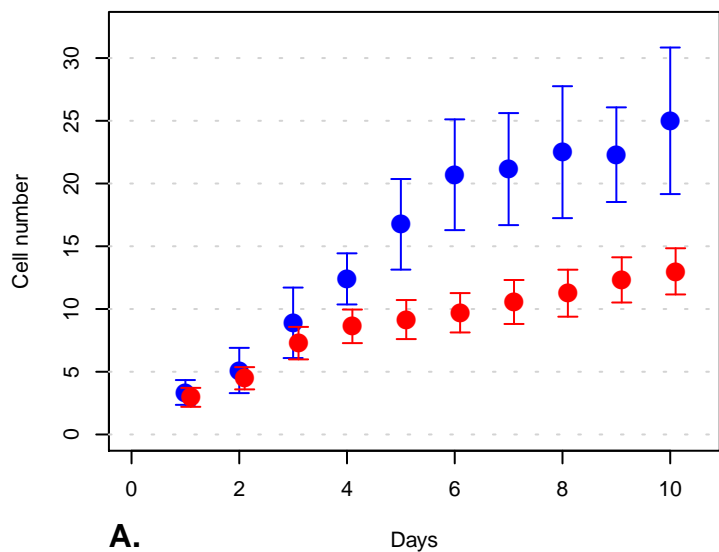
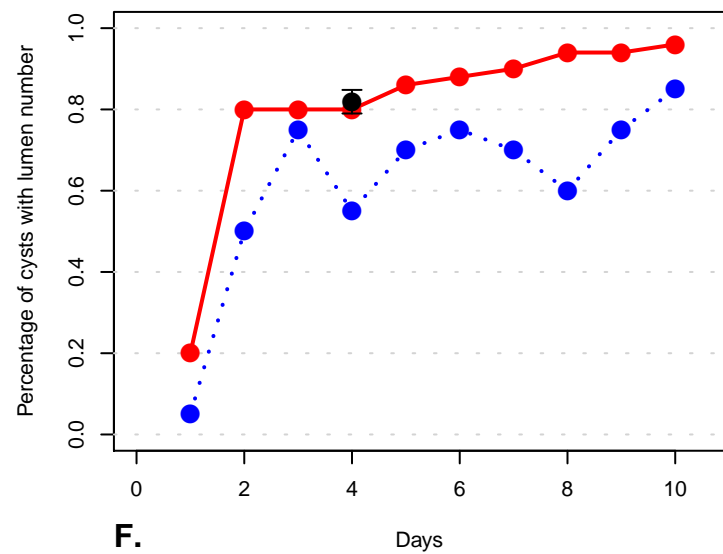
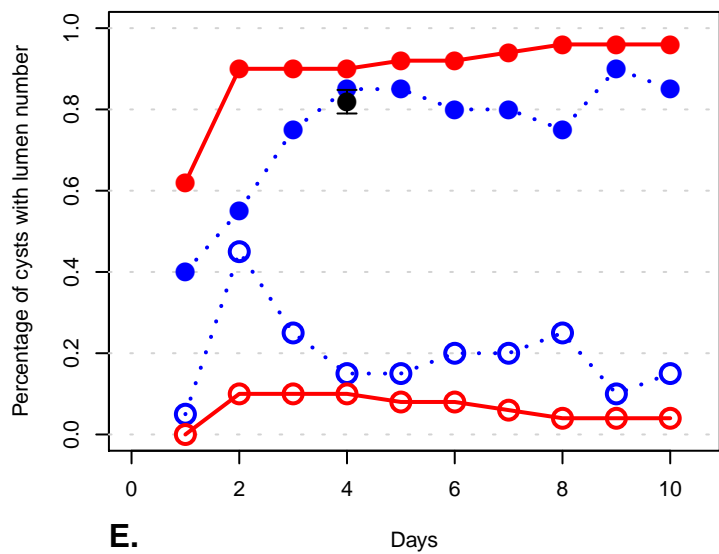
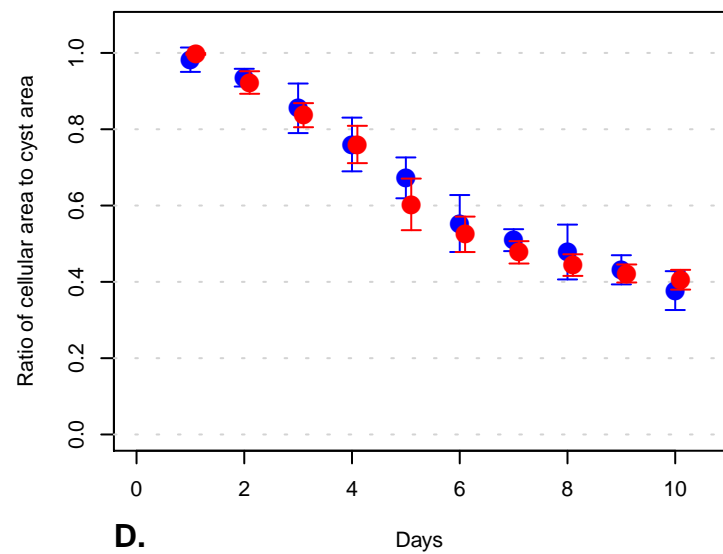
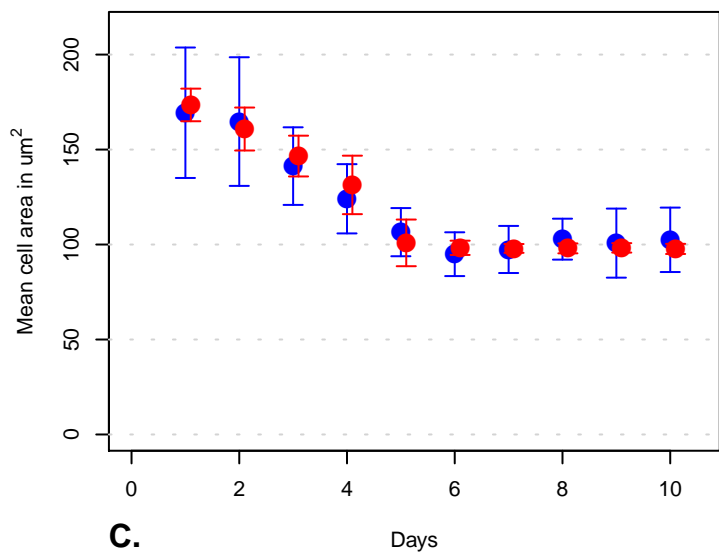
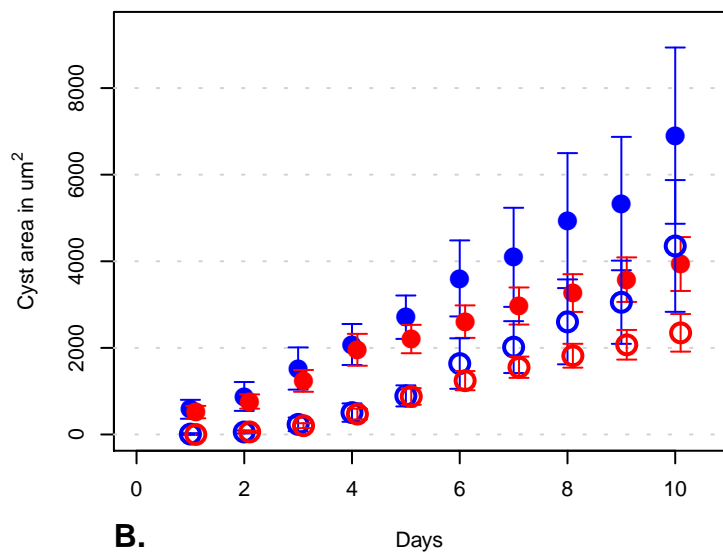
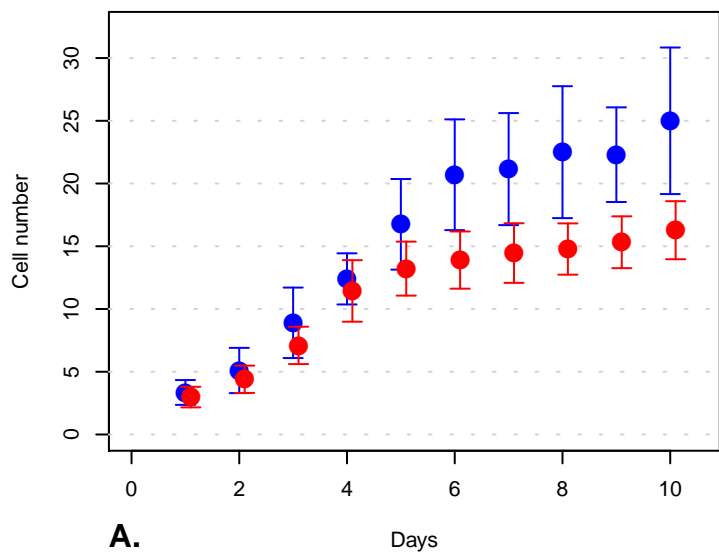
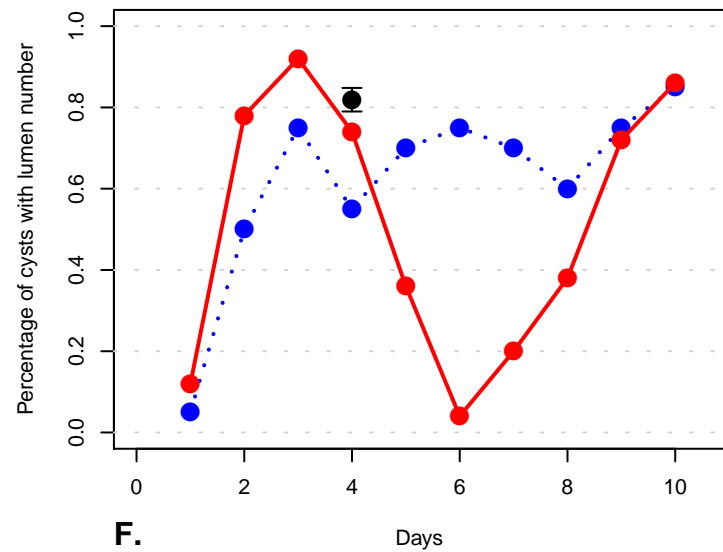
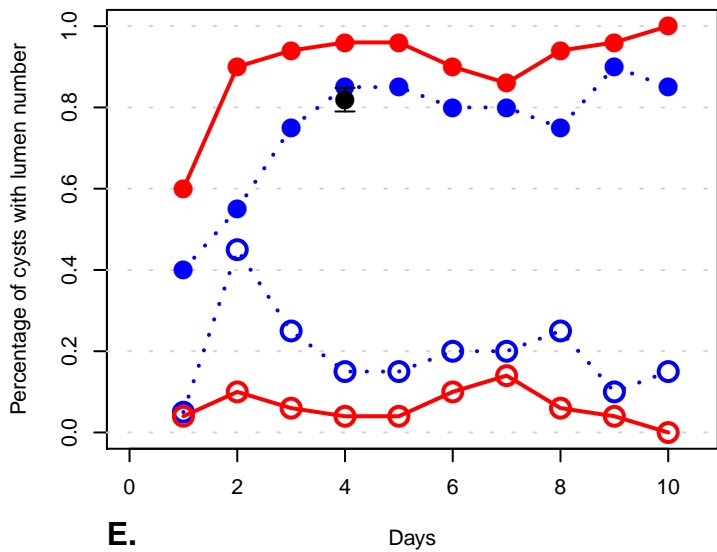
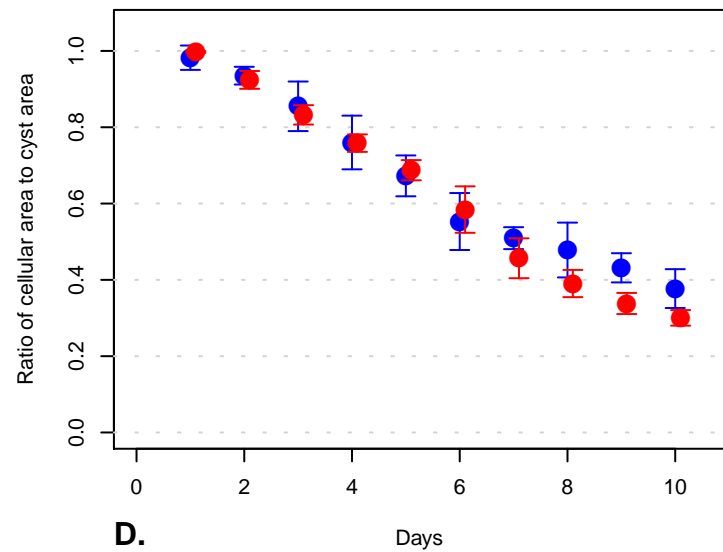
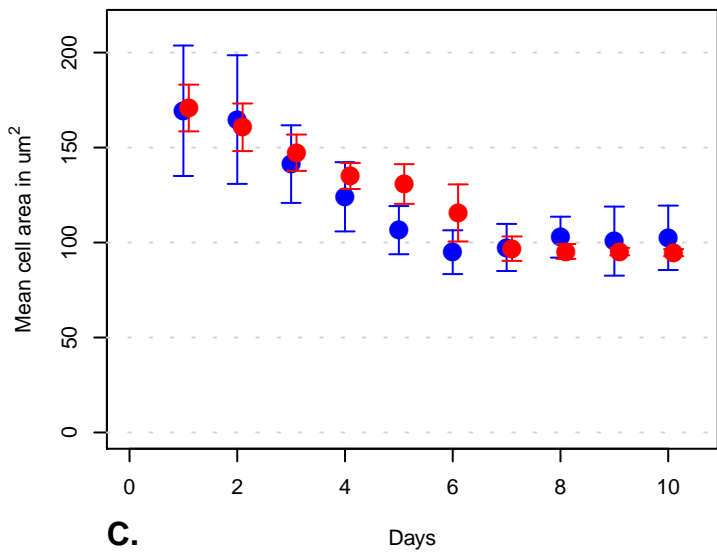
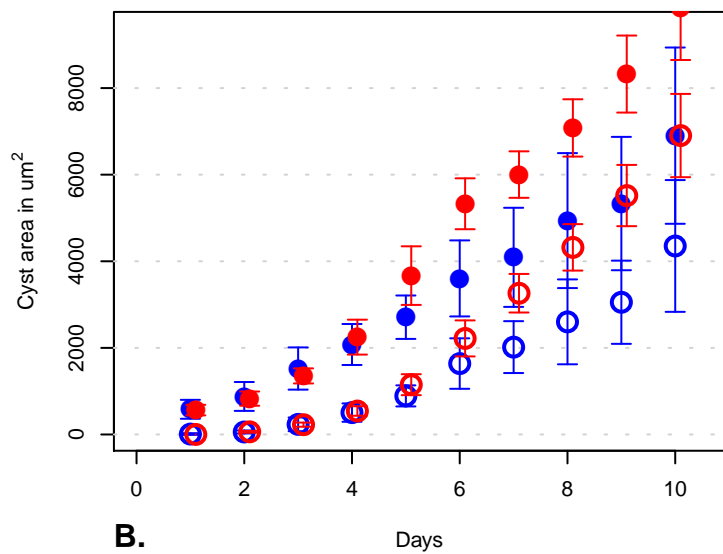
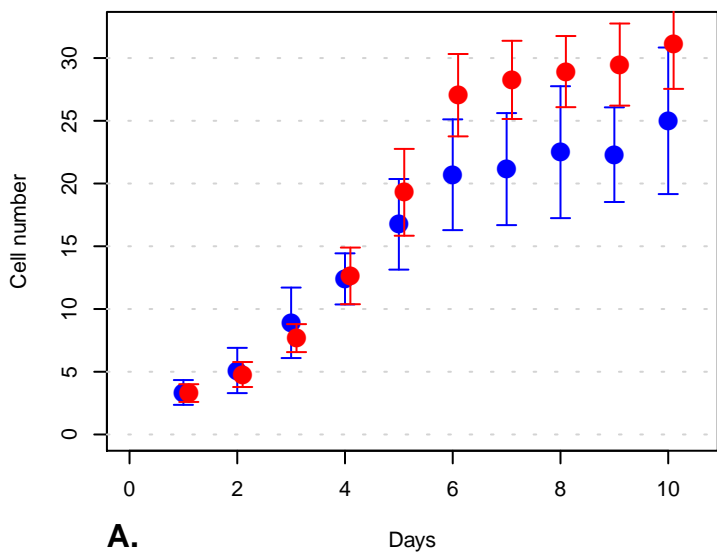


Figure S11-78) Varied stableRatio: sr = 0.25



**Figure S11-79) Varied stableRatio: sr = 1.0**



**Figure S11–80) Varied stableRatio: sr = 2.0**

