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« Restauration des populations de moules perlières en Ardennes »

Technical Report: Action F3 Mussel Rearing Station



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LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Environnement



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Part F3: Survival and growth of the mussels

As mentioned in the technical report D1 about 14000 young mussels were collected in the three cycles performed in spring 2007. These mussels were fed with detritus from three sources and with detritus collected in the Mill channel and the river Our. Here the growth of mussels fed with detritus from the source Conzefenn (C), the Mill channel (M) and the river Our (O) is presented. The length of the mussels in a box was determined by randomly measuring the length of 20 mussels. With these data the mean and standard deviation were calculated.

Figure 1 shows the growth of mussels fed with C-Detritus. The mussels were measured 5 times and reached 0.99 mm after 105 days.

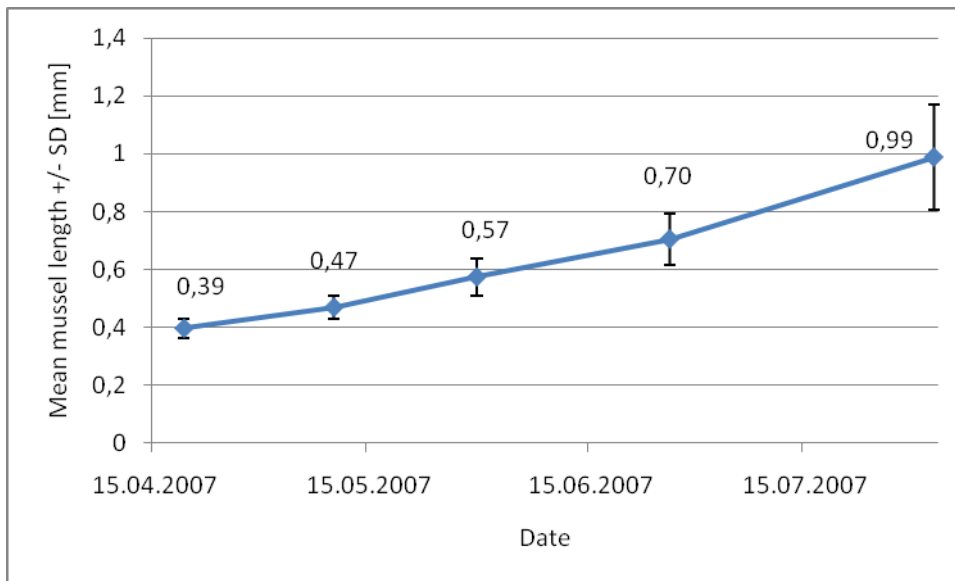


Figure 1: Growth of mussels fed with C-Detritus. Mean +/- Standard deviation (SD)

The growth of mussels fed with M-Detritus is illustrated in Figure 2. The mussels were measured on three occasions and after 98 days a length of 0.83 mm was reached.

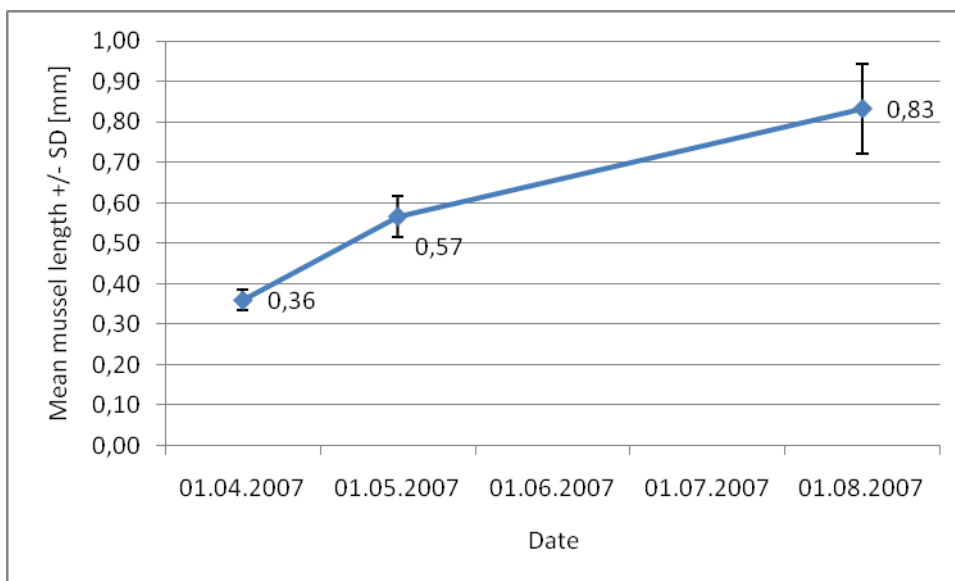


Figure 2: Growth of mussels fed with M-Detritus. Mean +/- Standard deviation (SD)

After 109 days the mussel fed with O-Detritus reached a length of 1.15 mm on average (Figure 3).

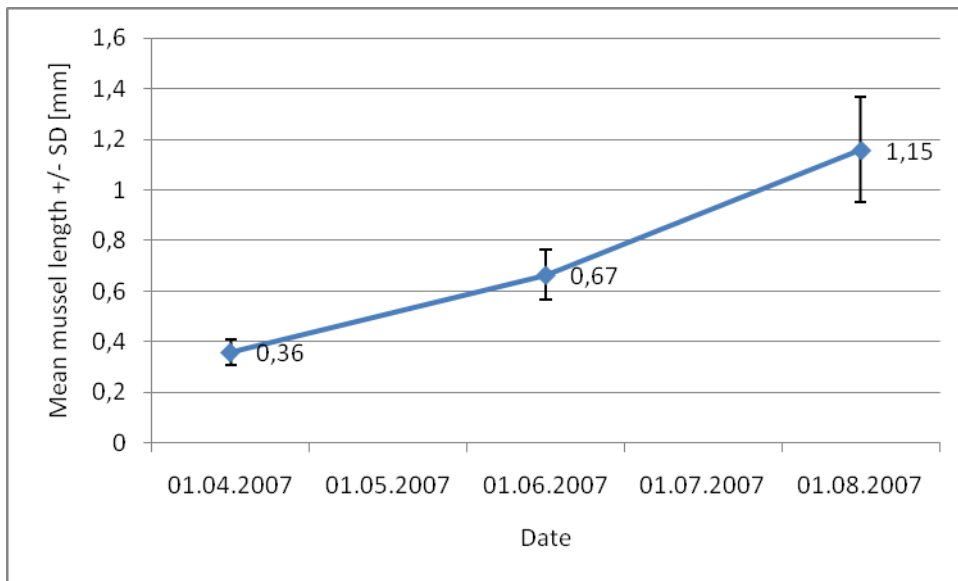


Figure 3: Growth of mussels fed with O-Detritus. Mean +/- Standard deviation (SD)

As can be seen on the Figures 1-3 slight differences in the growth can be seen between the mussels fed with the different Detritus. It was however not tested if the difference between the mussels fed with different food was statistical significant as too few mussels were measured on too different dates. But this will be done in 2008. With all three food sources it was nevertheless possible to grow mussels from 0.37 mm (Figure 4) up to one mm (Figure 5) in about 100 day. Having reached this length the mussels were transferred in the cage systems presented in the technical report D1 point 4. Until now the mortality rate of the mussels fed with the different Detritus has not been determined. In the first year still a lot of problems occurred with mycosis in different boxes. The whole handling with the mussels was done in 2007 in a provisional container which might partly explain the loss of many young mussels. Until now approximately 4000 mussel have almost reached 1 mm. This is a surviving rate of about 30%.



Figure 4: Young mussels after 10 days having reached approximately 0.4 mm



Figure 5: Young mussels after 80 days having reached approximately 0.8 mm