

# Forenklet prod plan Hallingfisk 34 liter rogn

Bjørn Frode Eriksen,

Utmarktjenester AS



| Month/date                                                             | 15.jan    | 15.feb   | 15.mar   | 15.apr   | 15.mai   | 15.jun   | 15.jul   | 15.aug    | 15.sep    | 15.okt   | 15.nov    | 15.des    |
|------------------------------------------------------------------------|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|----------|-----------|-----------|
| Inlet water temp (°C)                                                  | 2         | 2        | 2        | 4        | 6        | 12       | 14       | 12        | 10        | 6        | 4         | 2         |
| Temp Hatchery (°C)                                                     | 8         | 8        | 8        | 8        | 8        | 8        | 8        | 8         | 8         | 8        | 8         | 8         |
| d <sup>0</sup> eggs                                                    | 480       | 720      |          |          |          |          |          |           |           |          | 0         | 240       |
| Temp. RAS (°C)                                                         | 14        | 14       | 14       | 14       | 14       | 14       | 14       | 14        | 14        | 14       | 14        | 14        |
| Number of eggs/fry                                                     | 221113    |          |          |          |          |          |          |           |           |          | 245000    | 232750    |
| % mortality eggs/fry                                                   | 0 %       |          |          |          |          |          |          |           |           |          | 5 %       | 5 %       |
| % mortality fingerlings                                                |           | 5 %      | 5 %      | 1 %      | 1 %      | 0 %      | 0 %      | 0 %       | 0 %       |          |           |           |
| Delivered fingerlings (% of biomass)                                   |           |          |          |          |          | 25,0 %   | 25,0 %   | 25,0 %    | 100,0 %   |          |           |           |
| Number of 0+                                                           |           | 221113   | 210057   | 199554   | 197558   | 195583   | 146687   | 110015    | 82512     | 0        |           |           |
| Delivered fingerlings                                                  |           |          |          |          |          | 48896    | 36672    | 27504     | 82512     | 0        |           |           |
| SGR - fingerlings (%)                                                  |           | 3,5 %    | 3,0 %    | 3,0 %    | 3,0 %    | 3,00 %   | 3,0 %    | 2,5 %     | 2,5 %     |          |           |           |
| Ind. weight fry/fingerlings (g)                                        |           | 0,15     | 0,42     | 1,02     | 2,48     | 6,02     | 14,61    | 35,47     | 74,40     |          |           |           |
| Egg biomass (kg)                                                       | 32        | 0        | 0        | 0        |          |          |          |           |           |          | 35        | 33        |
| Biomass fingerlings (kg)                                               | 0         | 33       | 88       | 204      | 490      | 1178     | 2144     | 3902      | 6139      | 0        | 0         | 0         |
| Feed given (kg) (FCR 1,1)                                              |           | 1        | 2        | 4        | 9        | 21       | 28       | 51        | 62        |          |           |           |
| Total biomass (kg)                                                     | 32        | 33       | 88       | 204      | 490      | 1178     | 2144     | 3902      | 6139      | 0        | 35        | 33        |
| Spes. Water consumption eggs/fry (l/mi pr kg)                          | 2         | 2        | 2        |          |          |          |          |           |           |          | 2         | 2         |
| Spes. water consumption fingerlings (l/min pr kg)                      |           | 4,2      | 4,2      | 2,5      | 2        | 2        | 2        | 2         | 2         | 2        |           |           |
| Make up water consumption eggs (l/min)                                 | 16        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0        | 18        | 17        |
| Water consumption without Oxygen (l/min)                               | 0         | 139      | 371      | 510      | 980      | 2355     | 4287     | 7805      | 12279     | 0        | 0         | 0         |
| Water consumption with Oxygen (3 mg/l added)                           |           |          |          | 255      | 490      | 1178     | 2144     | 3902      | 6139      |          |           |           |
| Makeup water consumption based on feed given (l/day)                   | 0         | 0        | 520      | 1066     | 2657     | 6385     | 8484     | 15444     | 18466     | 0        | 0         | 0         |
| Makeup water consumption based on feed given (l/min)                   | 0         | 0        | 0        | 1        | 2        | 4        | 6        | 11        | 13        | 0        | 0         | 0         |
| <b>Totalt make up water consumption included hatchery flow (l/min)</b> | <b>16</b> | <b>0</b> | <b>0</b> | <b>1</b> | <b>2</b> | <b>4</b> | <b>6</b> | <b>11</b> | <b>13</b> | <b>0</b> | <b>18</b> | <b>17</b> |

### Production plan 34 liter eggs, Brown Trout, final setout oktober as 0+

Bjørn Frode Eriksen,

Utmarktjenester AS



| Dim. criterias                          |       |
|-----------------------------------------|-------|
| Input eggs (ltr)                        | 35    |
| Eggs pr ltr (pc)                        | 7000  |
| Eggs pr hatching box (l)                | 2     |
| Density in start feeding (fry pr m2)    | 10000 |
| Max density in ongrowing (kg/m3)        | 35    |
| Effect in heat recovery system(%)       | 0 %   |
| Depth of ongrowing tanks (m)            | 1,5   |
| Diameter - start feeding tanks (m)      | 2     |
| Diameter - ongrowing tanks (m)          | 3     |
| Max. Retention time (min)               | 100   |
| Min. retention time                     | 30    |
| Min make up water (l pr kg fôr pr døgn) | 300   |



| Calculated dim.                     | Safety margin | Dim. |
|-------------------------------------|---------------|------|
| Number of hatching boxes (pc)       | 25 %          |      |
| Number of start feeding tanks (pc)  | 25 %          |      |
| Number of ongrowing tanks (pc)      | 50 %          |      |
| Energy consumption for heating (kW) | 50 %          |      |
| Total energy used for heating (kWh) |               |      |
| Max Biomass in the farm (kg)        |               |      |
| Max. Waterflow in outlet (l/min)    | 50 %          |      |
| Delivered smolt (pc)                |               |      |
| Smolt size 15.jun (g)               |               |      |
| Production pr year (kg)             |               |      |



| Main pipes dim.         | Velocity | A | d | pipe length | friction factor | ΔP (m) |
|-------------------------|----------|---|---|-------------|-----------------|--------|
| Dim outlet pipe         | 0,7      |   |   |             |                 |        |
| Dim. Inlet pipe- Alt.1  | 1        |   |   |             |                 |        |
| Dim. inlet pipe - Alt.2 | 1,5      |   |   |             |                 |        |
| Dim. inlet pipe - Alt.2 | 2        |   |   |             |                 |        |

### **NB!**

Temperaturene i anlegget er estimert utfra erfaringer fra tilsvarende anlegg.

Andre temperaturer vil kunne føre til vesentlige endringer i dimensjonering

