Raw data

Fig.1A

|  |  |  |  |
| --- | --- | --- | --- |
| Duckweed concentration  g/L | Filter paper activity  (FPU/ml) | | |
| 1 | 2 | 3 |
| 10 | 1.33 | 1.24 | 1.48 |
| 30 | 5.44 | 5.72 | 5.22 |
| 50 | 6.69 | 6.85 | 6.75 |
| 70 | 5.65 | 5.45 | 5.29 |

Fig.1B

|  |  |  |  |
| --- | --- | --- | --- |
| Inducers | Filter paper activity  (FPU/ml) | | |
| 1 | 2 | 3 |
| A | 2.08 | 2.26 | 2.55 |
| B | 4.09 | 4.64 | 4.32 |
| C | 5.1 | 5.44 | 4.83 |
| D | 8.16 | 7.49 | 7.92 |

Fig.2A

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Concentration  (g/L) | Duckweed powder | | | Hydrolyzed residue | | |
| Filter paper activity  (FPU/ml) | | | Filter paper activity  (FPU/ml) | | |
| 1 | 2 | 3 | 1 | 2 | 3 |
| 10 | 2.24 | 2.08 | 2.05 | 0.63 | 0.53 | 0.56 |
| 30 | 6.64 | 6.52 | 6.19 | 3.3 | 3.45 | 3.6 |
| 50 | 7.85 | 7.68 | 8.03 | 4.74 | 4.83 | 4.97 |
| 70 | 6.35 | 6.18 | 6.62 | 4 | 4.24 | 3.82 |

Fig.2B

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Concentration  (g/L) | Duckweed powder | | | Hydrolyzed residue | | |
| Biomass (g/L) | | | Biomass (g/L) | | |
| 1 | 2 | 3 | 1 | 2 | 3 |
| 10 | 12 | 12.86 | 11.16 | 9.22 | 9.77 | 10.55 |
| 30 | 24.48 | 23.54 | 22.37 | 18.86 | 20.32 | 21.34 |
| 50 | 38.01 | 35.32 | 37.06 | 28.95 | 31.92 | 30.53 |
| 70 | 30.42 | 32.89 | 31.45 | 27.24 | 26.89 | 27.82 |

Fig.2C

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Concentration  (g/L) | Duckweed powder | | | Hydrolyzed residue | | |
| Amylase (IU/ml) | | | Amylase (IU/ml) | | |
| 1 | 2 | 3 | 1 | 2 | 3 |
| 10 | 5.58 | 5.85 | 5.35 | 1.33 | 1.12 | 0.88 |
| 30 | 14.32 | 14.99 | 14.74 | 2.27 | 2.51 | 2.42 |
| 50 | 21.78 | 21.42 | 21.62 | 4.06 | 4.37 | 3.86 |
| 70 | 19.94 | 19.63 | 19.23 | 3.38 | 3.8 | 3.61 |

Fig.2D

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Time(h) | Hydrolyzed residue | | | Duckweed powder | | |
| Starch (g/L) | | | Starch (g/L) | | |
| 1 | 2 | 3 | 1 | 2 | 3 |
| 0 | 0.35 | 0.39 | 0.28 | 10.32 | 10.21 | 10.08 |
| 24 | 0.24 | 0.26 | 0.28 | 9.97 | 9.55 | 9.16 |
| 48 | 0.24 | 0.2 | 0.16 | 7.39 | 7.71 | 7.57 |
| 72 | 0.21 | 0.1 | 0.15 | 4.3 | 4.46 | 4.2 |
| 96 | 0.15 | 0.06 | 0.1 | 2.43 | 2.79 | 3.07 |
| 120 | 0.03 | 0.02 | 0.01 | 1.26 | 1.15 | 1.32 |

Fig.2E

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Time(h) | Hydrolyzed residue | | | Duckweed powder | | |
| Biomass (g/L) | | | Biomass (g/L) | | |
| 1 | 2 | 3 | 1 | 2 | 3 |
| 0 | 1.26 | 1.47 | 1.03 | 1.52 | 1.21 | 0.91 |
| 24 | 8.91 | 9.4 | 9.95 | 14.38 | 14.95 | 13.74 |
| 48 | 22.93 | 23.62 | 24.17 | 36.65 | 37.43 | 35.65 |
| 72 | 27.44 | 27.96 | 27.06 | 27.15 | 26.75 | 26.28 |
| 96 | 20.74 | 20.18 | 20.47 | 19.65 | 20.02 | 19.25 |
| 120 | 15.32 | 15.74 | 15.04 | 1.52 | 1.21 | 0.91 |

Fig.2F

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Time(h) | Hydrolyzed residue | | | Duckweed powder | | |
| Amylase (IU/ml) | | | Amylase (IU/ml) | | |
| 1 | 2 | 3 | 1 | 2 | 3 |
| 24 | 0.35 | 0.45 | 0.21 | 1.76 | 2.06 | 1.56 |
| 48 | 0.83 | 0.99 | 0.72 | 6.13 | 5.83 | 5.5 |
| 72 | 1.61 | 1.84 | 2.12 | 12.43 | 13.04 | 11.96 |
| 96 | 2.81 | 2.73 | 2.65 | 20.13 | 19.53 | 20.81 |
| 120 | 3.24 | 3.88 | 3.57 | 24.22 | 24.62 | 24.98 |

Fig. 3A

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Concentration (g/L) | Avicel | | | Duckweed powder | | | Hydrolyzed residue | | |
|  |  | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Endoglucanase (IU/ml) | 10 | 18.6 | 18.83 | 18.37 | 13.15 | 13.44 | 13.71 | 10.48 | 10.22 | 10.07 |
| 30 | 35.43 | 35.82 | 36.16 | 29.85 | 31.13 | 30.45 | 19.86 | 20.15 | 20.49 |
| 50 | 47.55 | 46.98 | 47.96 | 44.24 | 44.51 | 44.03 | 28.36 | 28.53 | 28.18 |
| 70 | 40.26 | 40.61 | 40.94 | 37.98 | 37.62 | 37.31 | 25.06 | 25.32 | 25.63 |
| Exo-glucanase (IU/ml) | 10 | 8.16 | 8.42 | 8.62 | 6.44 | 6.21 | 5.96 | 4.24 | 4.32 | 4.4 |
| 30 | 9.84 | 10.12 | 10.37 | 8.84 | 8.62 | 8.4 | 5.46 | 5.73 | 5.93 |
| 50 | 12.51 | 12.32 | 12.1 | 11.35 | 11.59 | 11.47 | 7.36 | 7.55 | 7.23 |
| 70 | 14.43 | 14.57 | 14.25 | 10.89 | 11.27 | 11.08 | 6.91 | 7.08 | 7.25 |
| β-glucosidase (IU/ml) | 10 | 0.87 | 0.74 | 0.98 | 1.15 | 0.97 | 1.06 | 0.7 | 0.67 | 0.64 |
| 30 | 2.15 | 2.31 | 2.02 | 2.25 | 2.36 | 2.12 | 1.87 | 1.76 | 1.65 |
| 50 | 3.81 | 3.88 | 3.72 | 3.48 | 3.44 | 3.52 | 2.71 | 2.87 | 3.03 |
| 70 | 3.66 | 3.77 | 3.57 | 3.47 | 3.35 | 3.59 | 2.9 | 2.94 | 2.98 |
| Xylanase (IU/ml) | 10 | 202 | 217 | 185 | 408 | 433 | 378 | 467 | 484 | 498 |
| 30 | 371 | 356 | 384 | 606 | 630 | 589 | 723 | 713 | 701 |
| 50 | 456 | 483 | 508 | 829 | 821 | 812 | 954 | 936 | 916 |
| 70 | 607 | 621 | 633 | 913 | 932 | 892 | 1113 | 1097 | 1081 |

Fig.3B

|  |  |  |  |
| --- | --- | --- | --- |
|  | Hydrolyze rate  (%) | | |
|  | 1 | 2 | 3 |
| Avicel | 41.55 | 41.86 | 41.11 |
| Duckweed powder | 53.34 | 52.33 | 51.22 |
| Hydrolyzed residue | 53.45 | 54.27 | 54.91 |

Fig.4A

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Avicel | | | Duckweed powder | | | Hydrolyzed residue | | |
|  | Filter paper activity  (FPU/ml) | | | Filter paper activity  (FPU/ml) | | | Filter paper activity  (FPU/ml) | | |
|  | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| A | 6.45 | 6.63 | 6.33 | 5.13 | 5.27 | 5.39 | 3.43 | 3.71 | 3.21 |
| B | 7.19 | 7.24 | 7.29 | 8.23 | 8.36 | 8.13 | 7.53 | 7.3 | 7.75 |
| C | 7.81 | 8.03 | 8.21 | 9.23 | 9.15 | 9.07 | 8.26 | 8.48 | 8.04 |
| D | 8.15 | 8.31 | 7.95 | 11.4 | 11.3 | 11.35 | 10.24 | 10.08 | 10.4 |
| E | 8.42 | 8.33 | 8.26 | 9.68 | 9.85 | 10.04 | 9.17 | 9.34 | 8.98 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Avicel | | | Duckweed powder | | | Hydrolyzed residue | | |
|  | Hydrolyze rate (%) | | | Hydrolyze rate (%) | | | Hydrolyze rate (%) | | |
|  | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| A | 42.31 | 43.51 | 41.1 | 45.6 | 44.62 | 43.59 | 46.98 | 45.45 | 48.45 |
| B |  |  |  | 49.62 | 50.39 | 48.78 | 51.75 | 52.06 | 51.46 |
| C |  |  |  | 53.91 | 55.06 | 52.89 | 55.03 | 56.12 | 57.23 |
| D |  |  |  | 57.62 | 57.09 | 58.08 | 57.88 | 57.45 | 58.25 |
| E |  |  |  | 50.13 | 51.07 | 51.93 | 51.72 | 52.37 | 51.18 |

Fig.4B

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | | | B | | | C | | |
|  | Filter paper activity (FPU/ml) | | | Filter paper activity (FPU/ml) | | | Filter paper activity (FPU/ml) | | | |
|  | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | |
| 24 | 0.31 | 0.33 | 0.27 | 0.38 | 0.32 | 0.35 | 0.42 | 0.39 | 0.45 | |
| 48 | 1.31 | 1.25 | 1.35 | 1.51 | 1.56 | 1.44 | 1.41 | 1.52 | 1.28 | |
| 72 | 2.82 | 2.71 | 2.58 | 3.11 | 3.16 | 3.04 | 2.95 | 2.83 | 3.09 | |
| 96 | 5.37 | 5.21 | 5.04 | 5.75 | 5.59 | 5.47 | 5.84 | 5.61 | 6.03 | |
| 120 | 6.62 | 6.82 | 6.98 | 7.42 | 7.66 | 7.14 | 7.41 | 7.63 | 7.85 | |
| 144 | 7.48 | 7.7 | 7.31 | 8.64 | 8.81 | 8.96 | 9.39 | 9.07 | 9.23 | |
|  | D | | | E | | | F | | |
|  | Filter paper activity (FPU/ml) | | | Filter paper activity (FPU/ml) | | | Filter paper activity (FPU/ml) | | | |
|  | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | |
| 24 | 0.29 | 0.25 | 0.33 | 0.34 | 0.37 | 0.3 | 0.38 | 0.42 | 0.46 | |
| 48 | 1.42 | 1.5 | 1.45 | 1.91 | 1.9 | 1.89 | 2.1 | 2.14 | 2.06 | |
| 72 | 3.7 | 3.9 | 3.48 | 4.51 | 4.61 | 4.4 | 5.02 | 5.2 | 4.78 | |
| 96 | 6.83 | 6.71 | 6.97 | 7.91 | 8.12 | 7.68 | 8.54 | 8.41 | 8.27 | |
| 120 | 9.53 | 9.64 | 9.77 | 10.55 | 10.21 | 9.85 | 11.09 | 11.32 | 11.51 | |
| 144 | 11.24 | 11.39 | 11.07 | 11.46 | 11.54 | 11.51 | 14.02 | 14.21 | 13.78 | |

Fig.5