**Table1: Hormones used with Full Ms for Callus initiation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Mediumstrength** | Auxins |  Cytokinins | Gibberrellin  | Additive |
| Full MS | 0.25 |  | 0.05 |  |  |  |  |  |
| 0.10 |  |  |  |  |  |  |  |
| 0.05 |  | 2.50 |  |  |  |  |  |
|  |  | 2.50 | 0.05 | 0.10 |  |  |  |
|  |  | 0.50 | 2.50 |  |  |  |  |
|  |  | 0.05 | 0.05 |  |  |  |  |
|  | 0.10 |  | 0.10 |  |  |  |  |
|  |  |  |  | 0.10 | 0.05 | 1.00 |  |
|  |  |  |  | 0.10 |  | 0.10 |  |
|  |  | 0.05 |  |  | 0.05 |  |  |
|  |  |  |  |  | 0.05 | 0.05 |  |
|  |  |  |  |  | 0.10 | 0.10 | 2.00 |

**TABLE 2: Effect of various hormones on callus proliferation and relative growth**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **MediumStrength** Full MSExplant Leaf | 2,4 D | BA | KINETIN | NAA | PEG mg/l | RGR at 30days | RGR at70 days |
| 0.5 |  | 0.5 |  | 2 | 0.00375 | 0.00285 |
| 0.5 |  |  |  |  | 0.00342 | 0.00235 |
| 0.5 | 0.5 | 0.1 |  |  | 0.0499 | 0.03970 |
| 0.5 |  |  1 |  |  | 0.00315 | 0.00305 |
|  | 0.5 | 1 | 3 |  | 0.00491 | 0.00252 |

 **Table3: Effect of γ-irradiatio on andrographolide production**

|  |  |
| --- | --- |
| Dose of γ - irradiation | Andrographolide %w/w |
| Control CControl HControl PA | 0.002900 |
| 0.5kR C0.5kR H0.5kR PA | 0.00340.00340.0049 |
| 1kR C1kR H1kR PA | 0.0010.0050.0039 |
| 1.5kR C1.5 kR H1.5kR PA | 0.00040.00280.0042 |
| 2kR C2kR H2kR PA | 00.00270.0072 |

|  |  |  |
| --- | --- | --- |
|  MEDIUM C | MEDIUM H | MEDIUM PA |
|  0.5mg/l 2, 4 D  |  0.5mg/l2, 4 D  | 50mg/l Phenyl alanine |
|  0.5mg/l BA  |  1mg/l Kinetin  | 1mg/l Kinetin |
|  0.1mg/l Kinetin | 20%PEG 6000  | 2mg/l NAA |

**Table4: Data of fresh weight and dry weight of calli established from leaf explants in MS medium under different hormonal regimes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 0.5kR | 1 kR | 1.5 kR | 2 kR |
|  | FreshWeight(mg) | Dry Weight | Fresh Weight |  Dry weight | FreshWeight(mg) | Dry weight | FreshWeight(mg) | Dry Weight |
|  C |  8535 |  589 |  8176 |  511 |  8221 |  512 | 8128 |  506 |
|  H | 10878 |  777 |  8561 |  611 |  11040 |  73693 |  48 |  734  |
|  PA |  10930 |  767 |  9733 |  642 |  17343 |  1012 |  19242 |  932 |

### Table5: Relationship between Biomass, Andrographolide and RGR at 70 day

|  |  |  |  |
| --- | --- | --- | --- |
| Dose of gamma irradiation | Biomass |  % of Andrographolide (w/w)  | RGR at 70 day |
| 0.5kR C0.5kR H0.5kR PA | 0.8120.8060.843 | 0.00340.00340.0049 | 0.149250.158670.15693 |
| 1kR C1kR H1kR PA | 0.7350.8060.792 | .0010.0050.0039 | 0.136320.136530.15789 |
| 1.5kR C1.5 kR H1.5kR PA | 0.7330.7520.700 | 0.00040.00280.0042 | 0.124600.16050.30732 |
| 2kR C2kR H2kR PA | 0.7320.8870.945 | 0.00270.0072 | 0.118350.142710.26392 |