

# 林木良种名录

## 审定通过品种

### 南杨

树种：杨树

学名：*Populus deltoides* 'Nanyang'

类别：品种

通过类别：审定

编号：国 S-SV-PD-001-2012

### 品种特性

雄株。树干通直，窄冠，树皮灰白色，裂痕浅。纤维长 1118.95 $\mu\text{m}$ ，宽 21.53 $\mu\text{m}$ 。可作纸浆材、胶合板材和锯材。

### 栽培技术要点

造林前苗木浸泡 2 周以上。修去竞争枝，中耕 1—2 次。纸浆材栽植密度 4m $\times$ 3m，大径材栽植密度 5m $\times$ 6m 或 6m $\times$ 6m。

### 适宜种植范围

山东、河南、湖南、湖北等杨树适宜栽培区。

### 丹红杨

树种：杨树

学名：*Populus deltoides* 'Danhongyang'

类别：品种

通过类别：审定

编号：国 S-SV-PD-002-2012

### 品种特性

雌株。树冠长卵型，冠幅中等，干形通直，树皮粗糙开裂。纤维长 1156.56 $\mu\text{m}$ ，宽 20.89 $\mu\text{m}$ 。可作纸浆材、胶合板材和锯材。

### 栽培技术要点

造林前苗木浸泡 2 周以上。修去竞争枝，中耕 1—2 次。纸浆材栽植密度 4m $\times$ 3m，大径材栽植密度 5m $\times$ 6m 或 6m $\times$ 6m。

### 适宜种植范围

山东、河南、湖南、湖北等杨树适宜栽培区。

### 三毛杨 7 号

树种：杨树

学名：*Populus* ‘Sanmaoyang 7’

类别：无性系

通过类别：审定

编号：国 S-SC-PT-003-2012

### 品种特性

雌株。树干顶端稍有弯曲，树皮灰绿色或褐色，光滑。可作纸浆材等纤维工业用材。

### 栽培技术要点

春季造林为主。当年生苗造林，造林前浸水 1—2 天；造林后及时浇水，造林密度 500—1500 株/hm<sup>2</sup>。

### 适宜种植范围

北京、河北、山西中南部、山东西北部及河南北部等平原和河谷川地。

### 三毛杨 8 号

树种：杨树

学名：*Populus* ‘Sanmaoyang 8’

类别：无性系

通过类别：审定

编号：国 S-SC-PT-004-2012

### 品种特性

雄株。树干通直，树皮灰绿色或褐色，光滑。可作纸浆材等纤维工业用材。

### 栽培技术要点

春季造林为主。当年生苗造林，造林前浸水 1—2 天；造林后及时浇水，造林密度 500—1500 株/hm<sup>2</sup>。

### 适宜种植范围

北京、河北、山西中南部、山东西北部以及河南北部等区域的平原和河谷川地。

### 广西南宁市林科所马尾松初级无性系种子园种子

树种：马尾松

学名：*Pinus massoniana*

类别：种子园种子  
通过类别：审定  
编号：国 S- CSO(1)-PM-005-2012

### 品种特性

干形通直。在福建 13 年生平均树高 7.67m，平均胸径 10.9cm，平均蓄积量 60.5 m<sup>3</sup>/hm<sup>2</sup>。可用于纸浆材、建筑材、板材。

### 栽培技术要点

块状(或穴状)整地，整地规格为 40cm×40cm×25cm。造林后须抚育 2—3 年。施肥以 P 肥为主，适当配以 K 肥。

### 适宜种植范围

适于广西、福建、重庆海拔 300-800m 地区栽培。

## 广西藤县大芒界马尾松初级无性系种子园种子

树种：马尾松  
学名：*Pinus massoniana*  
类别：种子园种子  
通过类别：审定  
编号：国 S- CSO(1)-PM-006-2012

### 品种特性

干形通直。在福建 15 年生平均树高 9.82m，平均胸径 12.71cm，蓄积 67.5m<sup>3</sup>/hm<sup>2</sup>。可用于纸浆材、建筑材、板材。

### 栽培技术要点

块状(或穴状)整地，整地规格为 40cm×40cm×25cm。造林后抚育 2—3 年。幼林郁闭前抚育 3—5 次，施肥以 P 肥为主，适当配以 K 肥。

### 适宜种植范围

适于广西、福建、重庆海拔 300—800m 地区栽培。

## 大孤家 35

树种：日本落叶松  
学名：*Larix kaempferi* 'Dagujia 35'  
类别：家系  
通过类别：审定  
编号：国 S- SF-LK-007-2012

### 品种特性

树冠塔形，树干通直，树皮深褐色，纵裂长鳞片状剥落。辽宁 22 年生平均胸径 24.21cm，树高 19.19m，材积 0.4205m<sup>3</sup>。适合营建速生丰产用材林。

### 栽培技术要点

造林宜在阴坡、半阴或半阳坡土壤肥沃的山地，土层厚度 50cm 以上，土壤为山地棕壤或黄棕壤，pH 值 6.0 左右。穴状整地，规格 40 cm×40 cm×30 cm，初植株行距 2.0m×2.0m，或 1.5m×2m。

### 适宜种植范围

河北省、辽宁省、吉林省温带低山区。

## 大孤家 1061

树种：日本落叶松

学名：*Larix kaempferi* 'Dagujia 1061'

类别：家系

通过类别：审定

编号：国 S- SF-LK-008-2012

### 品种特性

树冠塔形，树干通直，树皮暗褐色，细条状开裂。在辽宁 28 年生平均胸径 25.60 cm，树高 24.57m，材积 0.5882m<sup>3</sup>。适合营建速生丰产用材林。

### 栽培技术要点

造林地宜选在阴坡、半阴或半阳坡土壤肥沃的山地，土层厚度在 50cm 以上，土壤为山地棕壤或黄棕壤，pH 值在 6.0 左右。初植株行距 2.0m×2.0m 或 1.5m×2m。

### 适宜种植范围

河北省、辽宁省、吉林省温带低山区。

## 大孤家 81

树种：日本落叶松

学名：*Larix kaempferi* 'Dagujia 81'

类别：家系

通过类别：审定

编号：国 S- SF-LK-009-2012

### 品种特性

树冠塔形，树干通直，树皮深褐色，纵状深裂。27 年生平均胸径 23.64 cm，树高 23.12m，材

积 0.5108m<sup>3</sup>。适合营建速生丰产用材林。

### 栽培技术要点

造林地宜选在阴坡、半阴或半阳坡土壤肥沃的山地，土层厚度在 50cm 以上，土壤为山地棕壤或黄棕壤，pH 值在 6.0 左右。穴状整地，规格 40 cm×40 cm×30 cm，初植株行距 2.0m×2.0m 或 1.5m×2m。

### 适宜种植范围

河北省、辽宁省、吉林省温带低山区。

## 大孤家 303

树种：日本落叶松

学名：*Larix kaempferi* 'Dagujia 303'

类别：家系

通过类别：审定

编号：国 S- SF-LK-010-2012

### 品种特性

树冠塔形，树干通直，树皮深褐色，纵裂成长鳞片状翘起，易剥落。18 年生平均胸径 16.75 cm，树高 18.57m，材积 0.2104m<sup>3</sup>。适合营建速生丰产林。

### 栽培技术要点

造林地宜阴坡、半阴或半阳坡土壤肥沃的山地，土层厚度 50cm 以上，山地棕壤或黄棕壤，pH 值 6.0 左右。穴状整地，规格 40 cm×40 cm×30 cm，初株行距 2.0m×2.0m 或 1.5m×2m。

### 适宜种植范围

河北省、辽宁省、吉林省温带低山区。

## 水栎 AR 种源

树种：水栎

学名：*Quercus nigra*

类别：种源

通过类别：审定

编号：国 S-SP-QN-011-2012

### 品种特性

喜光、喜水湿。干形通直，枝叶浓密，树冠紧凑均称。在上海造林 9 年平均树高和胸径为 12.4 m 和 17.6 cm。可作景观绿化，防护林，工业用材林。

### 栽培技术要点

育苗前种子需低温砂藏 2 个月，露白后及时播种。选择湿润肥沃立地造林；初植密度 2×3 m 为宜。

### 适宜种植范围

浙江、上海、江苏、安徽等省市的平原地区。

### 纳塔栎 LA 种源

树种：纳塔栎

学名：*Quercus nuttallii*

类别：种源

通过类别：审定

编号：国 S-SP-QN-012-2012

### 品种特性

喜光、耐水涝。树体通直粗壮、树冠均称、秋色红艳。在松江栽种 9 年平均树高和胸径达 11.98m 和 15.27cm。可作低湿平原地区通道防护林带、公园庭院绿化。

### 栽培技术要点

育苗前种子低温砂藏 2 个月，露白后播种；低湿平原地区的水旁、路旁造林，片林初植密度 2×3 m，园区景观绿化树木，及时修剪树干下部侧枝。

### 适宜种植范围

浙江、上海、江苏、安徽、江西等平原地区。

### 柳叶栎 LA 种源

树种：柳叶栎

学名：*Quercus phellos*

类别：种源

通过类别：审定

编号：国 S-SP-QP-013-2012

### 品种特性

喜光、喜水湿。干形挺直，上海造林 9 年平均树高和胸径为 11.14 m 和 12.33 cm 最大胸径达 25.3 cm。可作景观绿化，防护林，工业用材林。

### 栽培技术要点

育苗前种子需低温砂藏 2 个月，露白后播种；选择湿润肥沃立地造林；生态公益林初植密度 2×3 m 为宜。

### 适宜种植范围

浙江、上海、江苏、安徽等省市的平原地区。

### 秀发

树种：披针叶苔草

学名：*Carex lanceolata* ‘Xiufa’

类别：品种

通过类别：审定

编号：国 S-SV-CL-014-2012

### 品种特性

冷季型宿根草本植物。叶片繁密，株高 32cm。花果期 3 月底至 5 月中旬。北京地区绿色期 230 天左右。可用于庭院、公共绿地、村镇等园林绿化环境以及郊区生态环境治理。

### 栽培技术要点

壤土、黏土、轻质沙土都可正常生长。栽植深度以覆盖根际为宜，移栽后需浇透水以保成活。冬前、早春各充分灌溉一次。3 月至 5 月花果期不宜移栽和分株繁殖。

### 适宜种植范围

北京、河北、山东等披针叶苔草栽培区。

### 京薰 2 号

树种：薰衣草

学名：*Lavandula angustifolia* ‘Jingxun 2’

类别：品种

通过类别：审定

编号：国 S-SV-LA-015-2012

### 品种特性

观花品种。多年生亚灌木，植株树势强壮，紧凑分枝多。株高 40—50cm，株幅 60—65cm，花属顶生穗状花序，雌雄同花，异花授粉。花萼半紫、基青，花色深紫，花萼深紫色。

### 栽培技术要点

要求土壤深厚平整、排水良好。冬（10 月下旬至 2 月上中旬）、春（3 月中旬至 4 月上旬）两季种植。

## 适宜种植范围

新疆的干热河谷地带和胶东半岛丘陵地区。

## 京薰 1 号

树种：薰衣草

学名：*Lavandula angustifolia* 'Jingxun 1'

类别：品种

通过类别：审定

编号：国 S-SV-LA-016-2012

## 品种特性

多年生亚灌木，株形整齐，半开张，呈半倒伏状。株高 60—70cm，株幅 80—100cm，花属顶生穗状花序，雌雄同花，异花授粉。花萼端紫、下部灰白，花淡紫色，花期较集中，提取薰衣草精油和生态环境建设用灌木。

## 栽培技术要点

冬、春两季种植。冬季种植时间为 10 月中下旬至 12 月上中旬，春季种植 3 月中旬至 4 月上旬，株行距 0.8×1m。

## 适宜种植范围

新疆的干热河谷地带和胶东半岛丘陵地区。

## 鲁枣 4 号

树种：枣

学名：*Ziziphus jujuba* 'luzao 4'

类别：品种

通过类别：审定

编号：国 S-SV-ZJ-017-2012

## 品种特性

树姿直立，一年生枝紫红色。果实长椭圆形，平均果重 10.1 g。在山东泰安，9 月中旬成熟，果实发育期 95-100 天。制干、鲜食兼用。

## 栽培技术要点

平原株行距 2—3 m × 3—4m，山区按等高线 1.5 m 株距定植。适宜树形为小冠疏层形或开心形。修剪采用抹芽、摘心、拉枝、疏枝、拿枝等；无须环剥，盛花初期喷施 10 mg/L 赤霉素，促进坐果；萌芽前、花前及幼果期追肥。



## 适宜种植范围

山东、河北、山西、新疆等枣适宜栽培区。

## 鲁枣 5 号

树种：枣

学名：*Ziziphus jujuba* 'luzao 5'

类别：品种

通过类别：审定

编号：国 S-SV-ZJ-018-2012

## 品种特性

树姿直立，树势强。果实发育期 95—100 天，在山东泰安，9 月上旬开始着色，中旬全红成熟。果实椭圆形，平均果重 10.5 g，成熟期遇雨不裂果。制干、鲜食兼用。

## 栽培技术要点

平原地株行距 2—3m × 3—4m，山区按等高线 1.5—2.0 m 株距定植。适宜树形开心形或小冠疏层形。修剪采用摘心、抹芽及拉、撑枝，环割等；初花期新梢摘心，盛花初期喷施 10 mg/L 赤霉素，促进坐果。

## 适宜种植范围

山东、河北、山西、新疆等枣适宜栽培区。

## 鲁枣 6 号

树种：枣

学名：*Ziziphus jujuba* 'luzao 6'

类别：品种

通过类别：审定

编号：国 S-SV-ZJ-019-2012

## 品种特性

晚熟鲜食品种。果实生长期 110—120 天，在山东泰安，9 月中下旬开始着色，10 月上旬全红成熟。果实长柱形或平顶锥形，平均果重 12.2 g。

## 栽培技术要点

选根颈直径 0.8 cm、苗高 80 cm 根系良好的优质苗木栽植。平原地株行距 2—3 m × 3—4m，山区按等高线 1.5—2m 株距定植。适宜树形开心形或小冠疏层形。采用抹芽、摘心、拿枝、撑枝、环割等措施。无须环剥，初花期新梢摘心，盛花初期喷施 10 mg/L 赤霉素 1—2 次，促进坐果。

## 适宜种植范围

山东、河北、山西、新疆等枣适宜栽培区。

## 鲁枣 10 号

树种：枣

学名：*Ziziphus jujuba* 'luzao 10'

类别：品种

通过类别：审定

编号：国 S-SV-ZJ-020-2012

## 品种特性

树势中庸，树形为自然开心形。山东泰安 9 月上中旬成熟采收，果实生长期 95—100 天。果实短圆形，平均果重 5.5 g。鲜食，适宜鲜枣加工。

## 栽培技术要点

平原地株行距 2 m × 3 m 或 3 m × 4 m，山区按等高线 1.5 m 株距定植。适宜树形自然开心形或小冠疏层形。修剪采用抹芽、摘心、拉枝、疏枝、拿枝等措施；无须环剥和配置授粉树，初花期新梢摘心，盛花初期喷施 10 mg/L 赤霉素，促进坐果；追肥在萌芽前、花前及幼果期进行。

## 适宜种植范围

山东、河北、山西、新疆等枣适宜栽培区。

## 新郑红 2 号

树种：枣

学名：*Ziziphus jujuba* 'Xingzhenghong 2'

类别：品种

通过类别：审定

编号：国 S-SV-ZJ-021-2012

## 品种特性

树姿开张，皮面粗糙，呈条状纵裂。在河南新郑，9 月中旬成熟，果实生长期 100 天左右。果实圆柱形，平均果重 11.2g。鲜食、制干、加工。

## 栽培技术要点

选择平整，土壤肥沃的土地。栽植密度 2×3m。矮化密植型枣园树形可选小冠分层形、开心形等。施肥以有机肥为主，化肥为辅。灌水应把握萌芽期、开花期、幼果期以及落叶前的灌冻水。

## 适宜种植范围

河南、新疆等枣适宜栽培区。

## 华仲 1 号

树种：杜仲

学名：*Eucommia ulmoides* ‘Huazhong 1’

类别：品种

通过类别：审定

编号：国 S-SV-EU-022-2012

### 品种特性

树势强，树冠紧凑，呈宽圆锥形。栽植后 18 年树高 15.2 m，胸径 21.15 cm。雄花期 3 月上旬至 4 月中旬。用于中药产业。

### 栽培技术要点

选择光照充足、土层厚的平地或坡度小于 10° 的丘陵山地开阔地带。一般栽植密度为 3 m × 3 m—2 m × 2 m，每穴施农家肥 20—30kg 加饼肥 1kg。造林后及时抹去主干 1.5 cm 以下萌芽，干旱地区造林在无法浇水情况下，采用截干造林。

### 适宜种植范围

河南、湖北等省杜仲裁培区。

## 华仲 2 号

树种：杜仲

学名：*Eucommia ulmoides* ‘Huazhong 2’

类别：品种

通过类别：审定

编号：国 S-SV-EU-023-2012

### 品种特性

树冠开张呈圆头形。栽植后 18 年树高 14.6m，胸径 16.83cm。雌花期 4 月 1 日至 4 月 15 日。用于中药产业。

### 栽培技术要点

选择光照充足、土层厚的平地或坡度小于 10° 的丘陵山地开阔地带。栽植密度为 3 m × 3 m—2 m × 2 m，每穴施农家肥 20—30kg 加饼肥 1kg。造林后及时抹去主干 1.5 cm 以下萌芽，干旱地区造林在无法浇水情况下，采用截干造林。

### 适宜种植范围

河南、湖北等省杜仲裁培区。

## 华仲 3 号

树种：杜仲

学名：*Eucommia ulmoides* ‘Huazhong 3’

类别：品种

通过类别：审定

编号：国 S-SV-EU-024-2012

### 品种特性

树冠开放。树皮厚 1.23 cm，雌花期 4 月 1 日至 4 月 15 日，树皮含胶率 5.56%，树皮杜仲胶密度 13.27 mg/cm<sup>3</sup>。用于提取杜仲胶和中药产业。

### 栽培技术要点

选择光照充足、土层厚的平地或坡度小于 10°的丘陵山地开阔地带。一般栽植密度为 3 m × 3 m—2 m × 2 m，每穴施农家肥 20—30kg 加饼肥 1kg。造林后及时抹去主干 1.5 cm 以下萌芽，干旱地区采用截干造林。

### 适宜种植范围

河南、湖北等省杜仲栽培区。

## 华仲 4 号

树种：杜仲

学名：*Eucommia ulmoides* ‘Huazhong 4’

类别：品种

通过类别：审定

编号：国 S-SV-EU-025-2012

### 品种特性

冠形紧凑，呈卵形，嫁接苗建园 18 年树高达 15.10 m，胸径 18.4 cm，树皮厚 1.25 cm。雌花期 4 月 1 日至 4 月 15 日，杜仲皮内松脂素双糖苷含量为 0.40%。用于中药产业。

### 栽培技术要点

选择光照充足、土层厚的平地或坡度小于 10°的丘陵山地开阔地带。一般栽植密度为 3 m × 3 m—2 m × 2 m，每穴施农家肥 20—30kg 加饼肥 1kg。造林后及时抹去主干 1.5 cm 以下萌芽，干旱地区采用截干造林。

### 适宜种植范围

河南、湖北等省杜仲栽培区。

## 华仲 5 号

树种：杜仲

学名：*Eucommia ulmoides* ‘Huazhong 5’

类别：品种

通过类别：审定

编号：国 S-SV-EU-026-2012

### 品种特性

树冠成卵圆形。接苗建园第 18 年 14.80 m，胸径 17.6 cm，树皮厚 1.29 cm。树皮松脂素双糖苷含量 0.28 %。用于中药产业。

### 栽培技术要点

选择光照充足、土层厚的平地或坡度小于 10°的丘陵山地开阔地带。一般栽植密度为 3 m × 3 m—2 m × 2 m，每穴施农家肥 20—30kg 加饼肥 1kg。造林后及时抹去主干 1.5 cm 以下萌芽，干旱地区采用截干造林。

### 适宜种植范围

河南、湖北等省杜仲栽培区。

## 佛奥

树种：油橄榄

学名：*Olea europaea* ‘Frantoio’

类别：引种驯化品种

通过类别：审定

编号：国 S-ETS-OE-027-2012

### 品种特性

树体长势强，树冠自然圆头形，定植 4 年后开始开花结果；8 年进入盛果期。果实椭圆倒卵形，鲜果主要用于榨取食用橄榄油。

### 栽培技术要点

春季末、秋季均可栽植，密度 4m×5m，种植时挖大穴（不小于 80cm），每穴施有机肥 50—80kg。树形以空心圆头形或三主枝开心形为最佳。

### 适宜种植范围

云南海拔 1500—2200m 的金沙江干热河谷区冬季冷凉地带、云南中部地区以及甘肃陇南地区。

## 金阳

树种：猕猴桃

学名：*Actinidia chinensis* ‘Jinyang’

类别：品种

通过类别：审定

编号：国 S-SV-AC-028-2012

### 品种特性

果实呈长圆柱形，果皮薄，棕绿色，最大果重 155 g，平均果重约 85 g，果肉黄色，汁液多。第五年进入盛果期。鲜食，也可加工成果汁、果脯和果酒等。

### 栽培技术要点

要求疏松肥沃、排水良好、微酸性的砂质壤土。株行距为 4m × 4—5m，雌雄比例一般 6—8:1 为宜。以棚架和“T”型架为宜，单干上架。及时修剪，注意疏花疏果。一年施肥 3 次，高温干旱季节防旱保水。

### 适宜种植范围

适宜湖北、陕西等省海拔 1000m 以下，土壤微酸性的地区种植。

## 金农

树种：猕猴桃

学名：*Actinidia chinensis* ‘Jinnong’

类别：品种

通过类别：审定

编号：国 S-SV-AC-029-2012

### 品种特性

果实广椭圆形，果皮薄，果面绿褐色。平均果重 80g 左右，最大果重 135g。第五年可进入盛果期。鲜食，也可加工成果汁、果脯和果酒等。

### 栽培技术要点

建园选择疏松肥沃、排水良好、微酸性的砂质壤土。株行距为 4m×4—5m，雄性品系为‘金雄 1 号’，雌雄比例一般 6—8:1 为宜。以棚架和“T”型架为宜，单干上架。及时修剪，注意疏花疏果。一年施肥 3 次。高温干旱季节防旱保水。

### 适宜种植范围

适宜湖北、陕西等省海拔 1000m 以下，土壤微酸性的地区种植。

## 金圆

树种：猕猴桃

学名：*Actinidia chinensis* ‘Jinyuan’

类别：品种

通过类别：审定

编号：国 S-SV-AC-030-2012

### 品种特性

果实圆柱形，果面褐色，密生短茸毛，不脱落。平均单果重70—90 g左右，最大果重100.5g。果肉深黄色，第四年进入盛果期。主要用于鲜食，制汁。

### 栽培技术要点

宜采用宽行窄株，密度以行株距为 4—5m×3m 为宜。架式宜采用‘T’形棚架或大棚架，主干高 1.8m，整形以单主干双主蔓鱼骨树形，幼树夏季整形，冬季轻剪，而成年树冬季修剪为主，夏季为辅，在花期及时疏花疏果。重施基肥，以有机肥为主，配合磷钾肥，每株施 50 kg 农家肥和 1—2 kg 过磷酸钙。雌雄比 6—8：1。

### 适宜种植范围

适宜湖北、湖南、江西、四川等猕猴桃适生区。

## 东红

树种：猕猴桃

学名：*Actinidia chinensis* ‘Donghong’

类别：品种

通过类别：审定

编号：国 S-SV-AC-031-2012

### 品种特性

果实长圆柱形，果面绿褐色或黄绿色，稀生短茸毛，易脱落。平均果重65—75 g，最大果重112g。果肉黄色红心，且红色艳丽，第四年进入盛产期。

### 栽培技术要点

宜采用宽行窄株，密度以行株距为4—5m×3m为宜。架式宜采用‘T’形棚架或大棚架，主干高 1.8m，整形以单主干双主蔓鱼骨树形，幼树夏季整形，冬季轻剪，而成年树冬季修剪为主，夏季为辅，在花期及时疏花疏果。重施基肥，以有机肥为主，配合磷钾肥，每株施50 kg农家肥和2 kg过磷酸钙。雌雄比6—8：1。

### 适宜种植范围

适宜湖北、湖南、江西、四川等猕猴桃适生区。

## 白丘杂

树种：沙棘

学名：*Hippophae rhamnoides* × *H. sinensis* 'Baiqiuza'

类别：无性系

通过类别：审定

编号：国 S-SC-HR-032-2012

### 品种特性

灌木。株高可达 3.5—4.5m，树冠椭圆形，定植 3—4 年进入结果期，果实成熟期 8 月上旬，果实橘黄色，卵圆形或圆形。盛果期可达 8—10 年以上。平均单果重可达 0.4g。少刺，果柄长 2.0—3.5mm。

### 栽培技术要点

2 年生扦插苗造林，选用 8:1 的方法配置，栽植时按“田字排列法”定植。适时中耕除草，中耕深度为 4—5cm，每年 3—4 次，杂草控制在 10cm 以内；土壤持水量保持在 60%—80% 左右。

### 适宜种植范围

内蒙古、辽宁等沙棘栽培区。

## 棕丘

树种：沙棘

学名：*Hippophae rhamnoides* 'Zongqiu'

类别：无性系

通过类别：审定

编号：国 S-SC-HR-033-2012

### 品种特性

灌木。树冠椭圆形，定植 3—4 年进入结果期，果实成熟期 8 月上旬，果实橘黄色，卵圆形或圆形。盛果期可达 8—10 年以上。少刺，果柄长 2—5mm。

### 栽培技术要点

2 年生扦插苗造林。选用 8:1 的方法配置，栽植时按“田字排列法”定植。适时中耕除草，中耕深度为 4—5cm，每年 3—4 次，土壤持水量保持在 60%—80% 左右。

### 适宜种植范围

内蒙古、辽宁等沙棘栽培区。

## 黑棘 6 号

树种：沙棘

学名：*Hippophae rhamnoides* 'Heiji 6'



类别：无性系

通过类别：审定

编号：国 S-SC-HR-034-2012

### 品种特性

灌木。株高 2.5—3.0m，树冠椭圆形，定植 3—4 年进入结果期，果实成熟期 8 月上旬，果实橘黄色，卵圆形或圆形。盛果期可达 8—10 年以上。少刺或无刺，果柄长 2—3mm。

### 栽培技术要点

选择 2 年生扦插苗，人工管理的地块可选择 1.5m×3m，如果选用机械管理的地块可选择 2m×4m。选用 8:1 的方法配置，栽植时按“田字排列法”定植。适时中耕除草，中耕深度为 4—5cm，每年 3—4 次，土壤持水量保持在 60%—80%左右。

### 适宜种植范围

内蒙古、辽宁、黑龙江、新疆等沙棘栽培区。

## 辽阜 1 号

树种：沙棘

学名：*Hippophae rhamnoides* 'Liaofu 1'

类别：无性系

通过类别：审定

编号：国 S-SC-HR-035-2012

### 品种特性

灌木，树冠椭圆形。3—4 年进入结果期，果实成熟期 8 月上旬，果实橘黄色，卵圆形，可达 8—10 年以上。平均单果重 0.45—0.70g。

### 栽培技术要点

2 年生扦插苗造林，选用 8:1 的方法配置，栽植时按“田字排列法”定植。适时中耕除草，中耕深度为 4—5cm，每年 3—4 次，土壤持水量保持在 60%—80%左右。

### 适宜种植范围

内蒙古、辽宁、黑龙江、新疆等沙棘栽培区。

## 岱丰

树种：核桃

学名：*Juglans regia* 'Daifeng'

类别：品种

通过类别：审定

编号：国 S-SV-JR-036-2012

### 品种特性

树势较强，坚果长椭圆形，单果重量 14-15g，壳面较光滑，壳厚约 0.9-1.1mm，可取整仁，出仁率 55%-60%。可用于生食，榨油。

### 栽培技术要点

平原地区栽植密度为 4m×5 m 或 3m×6m，丘陵、山地栽植密度为 3m×4m 或 3m×3m。树形为主干疏层形和自然开心形。冬季修剪为主。施肥时期一般为休眠期施基肥和生长季追肥。萌芽前、果实硬核期和冬季封冻前灌水。

### 适宜种植范围

山东、山西、河北、陕西、湖北等核桃栽培区。

### 岱香

树种：核桃

学名：*Juglans regia* ‘Daixiang’

类别：品种

通过类别：审定

编号：国 S-SV-JR-037-2012

### 品种特性

树势强健，坚果圆形，单果重 13.0-15.6g，壳厚 0.9-1.2mm。可用于生食，榨油。

### 栽培技术要点

平原地区栽植密度为 4m×5m 或 3m×6m，丘陵、山地栽植密度为 3m×4m 或 4m×4m，树形为主干疏层形和自然开心形。冬季修剪为主，一般秋施基肥，生长季追肥，幼龄树株施有机肥 5-8kg，每年追肥 2-3 次，重点在花前和花芽分化期。前期以氮肥为主，后期施用氮磷钾复合肥。萌芽前、果实硬核期和冬季封冻前灌水。

### 适宜种植范围

山东、山西、河北、陕西、湖北等核桃栽培区。

### 鲁核 1 号

树种：核桃

学名：*Juglans regia* ‘Luhe 1’

类别：品种

通过类别：审定

编号：国 S-SV-JR-038-2012

### 品种特性

树姿直立，3年生幼树胸径年生长量 1.61cm，树高年平均生长量 159cm。坚果圆锥形，单果重 13.2g；壳厚 1.1-1.2mm，可用于生食，榨油。

### 栽培技术要点

栽培株行距为 4-5m×5-6m。树形一般为主干疏层形和自然圆头形，5-7 个主枝，分层排列或单层排列。每年追肥 2-3 次，在花前和花芽分化期各施一次，盛果期树注意疏密去弱，疏除下垂枝，回缩复壮多年生结果母枝。萌芽前、果实硬核期和冬季封冻前灌水。

### 适宜种植范围

山东、山西、河北、陕西、湖北等核桃栽培区。

## 鲁果 2 号

树种：核桃

学名：*Juglans regia* ‘Luguo 2’

类别：品种

通过类别：审定

编号：国 S-SV-JR-039-2012

### 品种特性

坚果圆柱形，单果重 14-16g；壳厚 0.9-1.1mm，易取整仁，出仁率 55%-60%。可用于生食，榨油。

### 栽培技术要点

平原地区栽植密度为 4m×5m 或 3m×6m，山区按等高线 4-5 m 株距定植，与授粉树配置比例为 8:1。适宜树形为主干疏层形。冬季修剪为主。施肥一般为休眠期施基肥和生长季追肥。基肥一般在秋季落叶后或春季发芽前施用。萌芽前、果实硬核期和冬季封冻前灌水。

### 适宜种植范围

山东、山西、河北、陕西、湖北等核桃栽培区。

## 友谊

树种：樱桃

学名：*Prunus avium* ‘YouYi’

类别：品种

通过类别：审定

编号：国 S-SV-PA-040-2012

### 品种特性

树势中庸。果实心脏形，平均单果质量 10.78 克，成熟时果实鲜红色，鲜亮有光泽，风味酸甜。鲜食或加工果汁、果酱、果脯等。

### 栽培技术要点

实行矮化宽行密植和行间生草模式，株行距 2m-3m×4.5m-5m，授粉品种为胜利、雷尼、先锋、拉宾斯等。以纺锤形和澳赛丛枝形树形为宜。追肥在秋季、花前及采收后进行。

### 适宜种植范围

山东、辽宁、北京、河南、山西等省樱桃栽培区。

### 早大果

树种：樱桃

学名：*Prunus avium* 'Zaodaguo'

类别：品种

通过类别：审定

编号：国 S-SV-PA-041-2012

### 品种特性

树体健壮。果实近圆形，成熟时果皮紫红色，平均单果质量 9.80g，最大单果质量 16.10g。早实，一般 3-4 年结果，5-6 年进入初盛果期，鲜食或加工果汁、果酱、果脯等。

### 栽培技术要点

实行矮化宽行密植和行间生草模式，适宜株行距 2m-3m×4.5m-5m，授粉品种为红灯、布鲁克斯、拉宾斯、萨米脱等。以纺锤形和澳赛丛枝形树形为宜。追肥在秋季、花前及采收后进行。

### 适宜种植范围

山东、辽宁、北京、河南、山西等省樱桃栽培区。

### 金美夏

树种：桃

学名：*Prunus persica* 'Jinmeixia'

类别：品种

通过类别：审定

编号：国 S-SV-PP-042-2012

### 品种特性

树势较旺盛。果实近圆稍扁，平均果重 202.1g，较大果重 283g；第三年进入盛果期，鲜食。

### 栽培技术要点

选择排水良好，土层深厚，光照充足的地块建园。露地栽种以 5m×3m、6m×4m 为宜；增施基肥，以有机肥为主，配合磷钾肥。追肥需氮、磷、钾配合，及时夏剪，以改善光照，增进果实着色。适量留果；冬季修剪宜采用长枝修剪技术，适量或留足预备枝。

### 适宜种植范围

北京、山东、山西桃栽培区。

### 望春

树种：桃

学名：*Prunus persica* 'Wangchun'

类别：品种

通过类别：审定

编号：国 S-SV-PP-043-2012

### 品种特性

树势中等。果实近圆稍长，平均果重 191.3g，鲜食。

### 栽培技术要点

选择排水良好，土层深厚，光照充足的地块建园。露地栽种行株距以 5m×3m、4m×3m 为宜；增施基肥，以有机肥为主，配合磷钾肥。追肥需氮、磷、钾配合，最好于落花后追施果树专用肥；及时夏剪，以改善光照，增进果实着色。适量留果；冬季修剪宜采用长枝修剪技术，适量或留足预备枝。

### 适宜种植范围

北京、山东、山西桃栽培区。

### 春美

树种：桃

学名：*Prunus persica* 'Chunmei'

类别：品种

通过类别：审定

编号：国 S-SV-PP-044-2012

### 品种特性

树势中庸。果实椭圆形或圆形，果皮茸毛中等，底色绿白，大部分或全部果面着鲜红色或紫红色，平均单果重 165-188 g，鲜食。

## 栽培技术要点

山区、丘陵或较瘠薄的土地可采用 4 m×3 m 的株行距，按自然开心形整枝；肥沃土壤可适当稀植，分别按倒“人”字形和开心形整枝。盛果期后，每年 10 月份重施基肥（每亩 4000kg 有机肥），谢花后追施腐熟人粪尿或氮磷钾复合肥，硬核期后，每 10 天叶面喷施一次磷酸二氢钾，采果以后追施一次磷钾肥。

## 适宜种植范围

河南、河北、山东、四川、浙江桃栽培区。

## 春蜜

树种：桃

学名：*Prunus persica* ‘Chunmi’

类别：品种

通过类别：审定

编号：国 S-SV-PP-045-2012

## 品种特性

树势中等偏旺。果实椭圆形或圆形，果皮茸毛中长，底色绿白，全部果面着鲜红色或紫红色，平均单果重 135-162g，鲜食。

## 栽培技术要点

山区、丘陵或较瘠薄的土地可采用 4 m×3 m 的株行距，按自然开心形整枝；肥沃良田可适当稀植，采用 2 m×5 m 或 3 m×5 m 的株行距，分别按倒“人”字形和开心形整枝。盛果期后，每年 10 月份重施基肥（每亩 4000kg 有机肥），谢花后追施一次腐熟人粪尿或氮磷钾复合肥，硬核期以后，每 10 天叶面喷施一次磷酸二氢钾，采果以后再追施一次磷钾肥。要保证充足的水分供应。

## 适宜种植范围

河南、河北、四川、浙江桃栽培区。

## 华美

树种：苹果

学名：*Malus domestica* ‘Huamei’

类别：品种

通过类别：审定

编号：国 S-SV-MD-046-2012

## 品种特性

树势强健。果实圆形，果形指数 0.84；平均单果重 195.2g，果面底色黄绿，全面着鲜艳红色，

着色指数 80% 以上；幼树定植后第 3 年即可少量结果，鲜食。

### 栽培技术要点

在丘陵山区、平地和滩区均可栽培，山地栽培采用海棠砧，3.0-4.0m×4-4.5m 株行距定植，树形采用自由纺锤形；平原肥沃土地栽培易采用矮化中间砧或矮化自根砧苗木，2-2.5m×4.0m 株行距定植，细长纺锤形。建园时应配置授粉树，可混栽专用授粉品种。穴施足够的有机肥，进入结果期后秋施有机肥。

### 适宜种植范围

河南、河北、山东、陕西苹果栽培区。

## 九丰一号

树种：忍冬

学名：*Lonicera japonica* 'Jiufeng 1'

类别：品种

通过类别：审定

编号：国 S-SV-LJ-047-2012

### 品种特性

四倍体品种。第 4 年进入丰产期。花蕾肥大，一般长 4.9 cm，最长达 6.5 cm。花绿原酸含量 4.3%，木犀草苷含量 0.09%。

### 栽培技术要点

平原、低洼地块可采取起垄或畦田方式种植；山区丘陵可根据地势，沿等高线起垄或挖鱼鳞坑穴盘栽植。春秋季节栽植最好。栽植时挖长、宽、深各 30 cm 左右的穴坑，采用簇墩形的栽植模式，一般墩行距为 1 m×1.5 m，有机肥料为主，化学肥料为辅；早春萌芽前灌溉以及入冬前灌冻水。

### 适宜种植范围

北京、河北、山东、云南金银花栽培区。

## 黑格斯曼地亚红豆杉

树种：曼地亚红豆杉

学名：*Taxus media* 'Hicksii'

类别：引种驯化品种

通过类别：审定

编号：国 S-ETS-TM-048-2012

## 品种特性

常绿针叶树种，雌雄异株；树冠卵形，枝条直立，叶片放射状排列，呈深绿橄榄色，侧根发达。全株紫杉醇含量达到万分之 6-9。可用于抗癌药物紫杉醇及其系列衍生物的提取原料。

## 栽培技术要点

选择苗龄 2 年以上苗木，在山坡地、陡坡地（坡度 20 度以上）山地鱼适用于鳞坑整地。坡地起垄适合在缓坡地（坡度 20 度以下）、沟地及丘陵地，适合起垄整地。夏季环境温度不要长时间超过 35℃，可以采取遮阳网遮阳，应定期浇水，保持土壤湿润。

## 适宜种植范围

陕西、辽宁、山东。

## 认定通过品种

### 欧美杨 2012

树种：杨树

学名：*Populus ×euramericana* ‘Portugal’

类别：引种驯化品种

通过类别：认定（5 年）

编号：国 R-ETS-PE-001-2012

## 品种特性

欧美杨无性系，雌株。树干通直圆满，树冠窄。木材纤维长度为 0.578mm，基本密度为 0.3275g/cm<sup>3</sup>。可作纸浆材、板材。

## 栽培技术要点

扦插繁殖。选用一年生苗木木质化程度高的中下部苗干作种条，秋季落叶后采集，冬藏春插。每亩扦插 3000 株，插后立即灌足水。也可嫩枝扦插、短芽大棚和组培等方式育苗。造林地宜选沙壤土、壤土或轻壤土，不宜盐碱地、山地造林。

## 适宜种植范围

北京、河北、以及河南、山东省北部杨树栽培区。

### 沼地红栎 LA 种源

树种：沼地红栎

学名：*Quercus shumardii*

类别：种源

通过类别：认定（5 年）

编号：国 R-SP-QS-002-2012



### 品种特性

高大落叶乔木，喜光、喜水湿。干形通直、分枝稀疏。春季发叶最早（一般在3月上中旬），秋冬落叶最迟（一般12月底至1月上旬），叶色紫红、红至红褐色，可用作低湿平原地区通道防护林带、城镇庭院绿化和行道树。

### 栽培技术要点

挑选河岸边、池塘边等低湿地，冲积性壤土或水稻土造林，采用1年生裸根苗或容器苗造林，株行距2×3 m。第3年剪除树干1.5 m以下侧枝。

### 适宜种植范围

浙江、上海、江苏等省市平原地区。

## 云朵楸

树种：楸树

学名：*Catalpa bungei* 'Yunduo'

类别：无性系

通过类别：认定（3年）

编号：国 R-SC-CB-003-2012

### 品种特性

伞形花序，顶生，花絮长度9-16 cm，花冠内有较密的紫红色斑点，下颚内部有2条黄色条纹。4年后开花，花量逐渐增大，10年后花量逐渐稳定，花期一般为15天，花朵为白色，作为园林观花品种。

### 栽培技术要点

植树穴呈方形或圆形，穴径50-60cm，深50cm。一般为3月至4月上旬栽植，栽后在距离接口以上4-5 cm处平茬，并涂抹密封蜡，防止水分散失；待需要保留的萌生枝生长高度达到10-15cm时，及时抹掉侧芽，保留生长健壮的顶芽育干；栽植第三年应开始修枝。

### 适宜种植范围

河南、甘肃、湖北等省楸树适生区。

## 红叶紫薇

树种：紫薇

学名：*Lagerstroemia indica* 'Pink Velour'

类别：引种驯化品种

通过类别：认定（5年）

编号：国 R-ETS-LI-004-2012

### 品种特性

树高可达 3.6m，新叶酒红色，老叶绿色带紫红色，叶厚、革质；新枝红色；花深粉红色，花序 15-30cm，6 月下旬或 7 月初始花，花期达 4 月以上。

### 栽培技术要点

选择土层深厚、肥沃、排水良好的背风向阳处。株行距 2m×2m，挖 40cm×40cm×40cm 的定植穴，每穴施入菜饼 0.5-0.75kg，栽植穴内施腐熟有机肥作基肥，栽后浇透水，3 天后再浇 1 次。幼苗期应做好防寒保温工作，三年生以上的成株则不用保温。

### 适宜种植范围

湖南、浙江、江苏、云南。

## 陈山红心杉

树种：杉木

学名：*Cunninghamia Lanceolata*

类别：种源

通过类别：认定（5 年）

编号：国 R-SP-CL-005-2012

### 品种特性

树干通直圆满。前期生长缓慢，后期生长快。木材基本密度 0.3240g/cm<sup>3</sup>，晚材率 24.1%，纤维长度 3602μm，胸高处红心比率 50.5%，用于营造速生丰产林，防护林及城市绿化等。

### 栽培技术要点

栽植为冬末春初雨后阴天栽植最适宜，初植密度 2m×2m，抚育管理第 1-3 年，每年 2 次，抚育时要挖尽草根、灌木蕨、除萌、培土，松土深度 10cm 左右；第 4 年只清除妨碍幼树生长的杂灌、草和藤蔓；幼林以枯饼、有机肥和钙镁磷肥 150kg/hm<sup>2</sup>-180kg/hm<sup>2</sup>，8-10 年生时施尿素 300kg/hm<sup>2</sup>-375kg/hm<sup>2</sup>，钙镁磷肥 750kg/hm<sup>2</sup>-900kg/hm<sup>2</sup>，沿树兜环状开沟；在林龄 8-10 年时，采用一次性间伐，间伐后密度为 1200 株/hm<sup>2</sup>。

### 适宜种植范围

江西、福建、广东等省杉木适生区。

**注：**通过认定的林木良种，认定期满后不得作为良种继续使用，应重新进行林木品种审定。

## National list of genetically improved tree varieties

### Certified varieties

#### Nanyang

**Species:** Poplar

**Scientific name:** *Populus deltoides* ‘Nanyang’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PD- 001-2012

#### Characteristics:

Male trees with straight stem, narrow crown and grey white bark with shallow splits. Fiber length is 1118.95  $\mu\text{m}$  and fiber width 21.53 $\mu\text{m}$ . Used for pulp, plywood and saw timber.

#### Silvicultural techniques:

More than 2 weeks of soaking in water prior to planting. Pruning conducted to remove competing branches, inter-tillage conducted once to twice a year. Planting spacing is 4 m x 3 m for pulp production, 5 m x 6 m or 6 m x 6 m for large diameter trees.

#### Suitable areas for planting:

Areas suitable for growing poplars in Shandong, Henan, Hunan and Hubei provinces.

#### Danhongyang

**Species:** Poplar

**Scientific name:** *Populus deltoides* ‘Danhongyang’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PD- 002-2012

#### Characteristics:

Female tree, the crown is long oval with a moderate width. Straight stem with rough and split bark. Fiber length is 1156.56  $\mu\text{m}$  and width is 20.89  $\mu\text{m}$ . Used for pulp, plywood and saw timber.

**Silvicultural techniques:**

More than 2 weeks of soaking in water prior to planting. Pruning conducted to remove competing branches, 1-2 times of inter-tillage in a year. Planting spacing is 4 m x 3 m for pulp production, 5 m x 6 m or 6 m x 6 m for large diameter trees.

**Suitable areas for planting:**

Areas suitable for growing poplars in Shandong, Henan, Hunan and Hubei provinces.

**Sanmaoyang 7**

**Species:** Poplar

**Scientific name:** *Populus* 'Sanmaoyang 7'

**Type of material:** Clone

**Category of certification:** Certified

**Registration No.:** Guo S- SC-PE- 003-2012

**Characteristics:**

Female tree, the top part of stem is slightly bent. Grey green or brown and smooth bark. Used for pulp production and other fiber industrial purposes.

**Silvicultural techniques:**

Trees are mainly planted in spring using 1 year old plant stocks. 1-2 days of soaking in water is needed prior to planting; timely watering after planting. Planting spacing is 500-1500 trees/ha.

**Suitable areas for planting:**

Beijing, Hebei, Central and South Shanxi, Northwest Shandong, Plain areas and Valleys North Henan and Shandong and Henan provinces.

**Sanmaoyang 8**

**Species:** Poplar

**Scientific name:** *Populus* 'Sanmaoyang 8'

**Type of material:** Clone

**Category of certification:** Certified

**Registration No.:** Guo S- SC-PE- 004-2012

**Characteristics:**

Male tree, the stem is straight. Grey green or brown and smooth bark. Used for pulp production and other fiber industrial purposes.

**Silvicultural techniques:**

Trees are mainly planted in spring using 1 year old plant stocks. 1-2 days of soaking in water is needed prior to planting; timely watering after planting. Planting spacing is 500-1500 trees/ha.

**Suitable areas for planting:**

Beijing, Hebei, Central and South Shanxi, Northwest Shandong, Plain areas and Valleys North Henan and Shandong and Henan provinces.

**Masson pine seeds of clonal seed orchard of Nanning Municipal Forestry Institute**

**Species:** Masson pine

**Scientific name:** *Pinus massoniana*

**Type of material:** Seed orchard seeds

**Category of certification:** Certified

**Registration No.:** Guo S- CSO-PM- 005-2012

**Characteristics:**

Straight stem. The average height is 7.67 m, DBH 10.9 cm and volume 60.5 m<sup>3</sup>/ ha at 13 years old in Fujian. Used for production of pulp, construction timber and panels.

**Silvicultural techniques:**

Site preparation in blocks (or holes), in a size of 40cm×40cm×25cm. Tending is needed for 2-3 years after plating. Fertilizer of P is mainly applied and supplemented with K as appropriate.

**Suitable areas for planting:**

Areas between altitudes of 300-800 m in Guangxi, Fujian and Chongqing.

**Masson pine seeds of clonal seed orchard of Tengxian County, Guangxi**

**Species:** Masson pine

**Scientific name:** *Pinus massoniana*

**Type of material:** Seed orchard seeds

**Category of certification:** Certified

**Registration No.:** Guo S- CSO-PM- 006-2012

**Characteristics:**

Straight stem. The average height is 9.82 m, DBH 12.71 cm and volume 67.5 m<sup>3</sup>/ ha at 15 years old in Fujian. Used for production of pulp, construction timber and Panels.

**Silvicultural techniques:**

Site preparation in blocks (or holes), in a size of 40cm×40cm×25cm. Tending is needed for 2-3 years after plating. Fertilizer of P is mainly applied and supplemented with K as appropriate.

**Suitable areas for planting:**

Areas between altitudes of 300-800 m in Guangxi, Fujian and Chongqing.

**Dagujia 35**

**Species:** Japanese Larch

**Scientific name:** *Larix kaempferi* 'Dagujia 35'

**Type of material:** Family

**Category of certification:** Certified

**Registration No.:** Guo S- SF-LK- 007-2012

**Characteristics:**

Tower-formed crown, straight stem. The bark is dark brown with longitudinal cracks and peeling off in long scales. The average DBH is 24.21 cm, height 19.19 m and individual volume 0.4205 m<sup>3</sup>/tree at 22 years of age in Liaoning. Used for fast-growing and high-yielding plantations.

**Silvicultural techniques:**

Suitable for plantings in shady, semi shady or semi sunny slopes in mountain areas with fertile soils at a depth of more than 50 cm. Soils are mountain brown soil or yellowish brown soil with a pH of around 6.0. Site preparation in holes at a size of 40 cm×40 cm×30 cm. Initial spacing is 2.0 m x 2.0 m or 1.5 m x 2 m.

**Suitable areas for planting:**

Low mountain areas in temperate Hebei, Liaoning and Jilin provinces.

**Dagujia 1061**

**Species:** Japanese Larch

**Scientific name:** *Larix kaempferi* 'Dagujia 1061'

**Type of material:** Family

**Category of certification:** Certified

**Registration No.:** Guo S- SF-LK- 008-2012

**Characteristics:**

Tower-formed crown, straight stem. Dark brown bark with fine strip cracks. The average DBH is 25.60 cm, height 24.57 m and individual volume 0.5882 m<sup>3</sup>/tree at 28 years of age in Liaoning. Used for establishment of fast-growing and high-yielding plantations.

**Silvicultural techniques:**

Suitable for plantings in shady, semi shady or semi sunny slopes in mountain areas with fertile soils at a depth of more than 50 cm. Soils are mountain brown soil or yellowish brown soil with a pH of around 6.0. Initial spacing is 2.0 m x 2.0 m or 1.5 m x 2 m.

**Suitable areas for planting:**

Low mountain areas in temperate Hebei, Liaoning and Jilin provinces.

**Dagujia 81**

**Species:** Japanese Larch

**Scientific name:** *Larix kaempferi* 'Dagujia 81'

**Type of material:** Family

**Category of certification:** Certified

**Registration No.:** Guo S- SF-LK- 009-2012

**Characteristics:**

Tower-formed crown, straight stem. The bark is dark brown with deep longitudinal cracks. The average DBH is 23.64 cm, height 23.12 m and individual volume 0.5108 m<sup>3</sup>/tree at 27 years of age. Used for establishment of fast-growing and high-yielding plantations.

**Silvicultural techniques:**

Suitable for plantings in shady, semi shady or semi sunny slopes in mountain areas with fertile soils at a depth of more than 50 cm. Soils are mountain brown soil or yellowish brown soil with a pH of around 6.0. Site preparation in holes at a size of 40 cm×40 cm×30 cm. Initial spacing is 2.0 m x 2.0 m or 1.5 m x 2 m.

**Suitable areas for planting:**

Low mountain areas in temperate Hebei, Liaoning and Jilin provinces.

**Dagujia 303**

**Species:** Japanese Larch

**Scientific name:** *Larix kaempferi* ‘Dagujia 303’

**Type of material:** Family

**Category of certification:** Certified

**Registration No.:** Guo S- SF-LK- 010-2012

**Characteristics:**

Tower-formed crown, straight stem. Dark brown bark with longitudinal cracks coked in long scales, easy to peel off. The average DBH is 16.75 cm, height 18.57 m and individual volume 0.2104 m<sup>3</sup>/tree at 18 years of age. Used for establishment of fast-growing and high-yielding plantations.

**Silvicultural techniques:**

Suitable for plantings in shady, semi shady or semi sunny slopes in mountain areas with fertile soils at a depth of more than 50 cm. Soils are mountain brown soil or yellowish brown soil with a pH of around 6.0. Site preparation in holes at a size of 40 cm×40 cm×30 cm. Initial spacing is 2.0 m x 2.0 m or 1.5 m x 2 m.

**Suitable areas for planting:**

Low mountain areas in temperate Hebei, Liaoning and Jilin provinces.

**Arkansas provenance of water Oak**

**Species:** water Oak

**Scientific name:** *Quercus nigra* L.

**Type of material:** Provenance

**Category of certification:** Certified

**Registration No.:** Guo S- SP-QN- 011-2012

**Characteristics:**

Prefer sun light and wet conditions. The stem is straight, with dense branches and leaves. The crown is uniform and compact. The average DBH and height are respectively 12.4 m and 17.6 cm at 9 years after planting in Shanghai. Used for landscaping plantations, protection forest and industrial timber forest.



**Silvicultural techniques:**

Seeds need to be cold stratified for 2 months before germination, seeds sowed right after the white bud emerged. Moist and fertile sites selected for planting. Used for timber forest or ecological forest, initial spacing 2 m x 3 m.

**Suitable areas for planting:**

Plain areas in Zhejiang, Jiangsu and Anhui provinces and Shanghai city.

**Los Angeles provenance of Nuttall Oak**

**Species:** Nuttall Oak

**Scientific name:** *Quercus nuttallii*

**Type of material:** Provenance

**Category of certification:** Certified

**Registration No.:** Guo S- SP-QN- 012-2012

**Characteristics:**

Prefer sun light, tolerant to water logging. Trees are straight and tick, with a uniform crown and a bright red autumn color. The average height and DBH are respectively 11.98 m and 15.27 cm at 9 years after planting in Songjiang of Shanghai. Used for roadside protection forest in low and wet areas in plains and for park and residence gardening.

**Silvicultural techniques:**

Seeds need to be cold stratified for 2 months before germination, seeds sowed right after the white bud emerged. Riverside and roadside sites in low and wet plain areas selected for planting. Initial spacing 2 m x 3 m. Timely pruning of branches at lower parts of the trunk if used for residence or gardening plantings.

**Suitable areas for planting:**

Plain areas in Zhejiang, Jiangsu, Anhui and Jiangxi provinces and Shanghai city.

**Los Angeles provenance of Willow Oak**

**Species:** Willow Oak

**Scientific name:** *Quercus phellos*

**Type of material:** Provenance

**Category of certification:** Certified

**Registration No.:** Guo S- SP-QP- 013-2012

**Characteristics:**

Prefer sun light and wet conditions.. Straight stem form. The average height and DBH are respectively 11.14 m and 12.33 cm at 9 years after planting in Shanghai. Used for landscape forestation, protection forest and industrial timber forest.

**Silvicultural techniques:**

Seeds need to be cold stratified for 2 months before germination, seeds sowed right after the white bud emerged. Wet and fertile sites selected for planting. Used for ecological forest. Initial spacing 2 m x 3 m.

**Suitable areas for planting:**

Plain areas in Zhejiang, Jiangsu and Anhui provinces and Shanghai city.

**Xiufa**

**Species:** *Carex lanceolata*

**Scientific name:** *Carex lanceolata* ‘Xiufa’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-CL- 014-2012

**Characteristics:**

Cool season perennial herbaceous plant. Dense leaves, and plant height 32 cm. Flowering and fruiting period from end March to mid May. About 230 days of green period in Beijing. Used for plantings in gardens, public green land, villages and towns and for ecological protection in suburban areas.

**Silvicultural techniques:**

Normally grow in loam, clay and light sandy soils. Planting depth kept as the roots just covered. Watering is conducted after planting to improve survival rate. Sufficient irrigation is applied once before winter and in early spring. The flowering and fruiting period from March to May is not suitable for transplanting or vegetative propagation.

**Suitable areas for planting:**

Areas suitable for *Carex lanceolata* in Beijing, Hebei and Shandong.

**Jingxun 2**

**Species:** Lavender

**Scientific name:** *Lavandula angustifolia* ‘Jingxun 2’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-LA- 015-2012

**Characteristics:**

A flower-appreciation variety, it is a perennial dwarf shrub, strongly vigorous, compact and heavily branching. Plants are 40-50 cm in height and 60-65 cm in width, with terminal spikes, monoecious flowers and cross-pollination. Sepals half-purple and black at the base, flowers are dark purple.

**Silvicultural techniques:**

It requires deep and flat soil and good drainage. Can be planted in winter (later October to early and mid December) and spring (mid March to early April).

**Suitable areas for planting:**

Dry-hot valley in Xinjiang and hilly areas in Jiaodong peninsular.

**Jingxun 1**

**Species:** Lavender

**Scientific name:** *Lavandula angustifolia* ‘Jingxun 1’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-LA- 016-2012

**Characteristics:**

A perennial dwarf shrub, the tree form is uniform, half-open and half lodging. Plants are 60-70 cm in height and 80-100 cm in width, with terminal spike, monoecious flowers and cross-pollination. Sepals purple at top and black at the base. Flowers are light purple and flowering at a relatively same time. Used for extraction of essential oil and for ecological purposes.

**Silvicultural techniques:**

Can be planted in winter and spring, from mid October to early or mid December in winter and from mid March to early April in spring. Planting spacing is 0.8 m x 1 m.

**Suitable areas for planting:**

Dry-hot valley in Xinjiang and hilly areas in Jiaodong peninsular.

#### **Luzao 4**

**Species:** Date

**Scientific name:** *Ziziphus jujuba* 'Luzao 4'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-ZJ- 017-2012

#### **Characteristics:**

Upright tree form, one year old branches purplish red. Fruits oblong, with an average individual weight of 10.1 g. Fruits ripen in mid September in Taian of Shandong province. 95-100 days of fruit development period. Used for dried fruit or as fresh fruit.

#### **Silvicultural techniques:**

Planting spacing is 2-3m x 3-4 m in plain areas, and along contours at a tree to tree distance of 1.5 m in mountain areas. Suitable tree form is small crown with sparse branch layers or open-heart shape. Pruning is done by bud picking, topping, branching control through pulling, thinning and holding. No girdling needed, spray of 10 mg/l GB at the beginning of the peak flowering period to promote fruit setting. Fertilizers applied before shooting, before flowering and during young fruit period.

#### **Suitable areas for planting:**

Areas suitable for growing dates in Shandong, Hebei, Shanxi and Xinjiang provinces.

#### **Luzao 5**

**Species:** Date

**Scientific name:** *Ziziphus jujuba* 'Luzao 5'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-ZJ- 018-2012

#### **Characteristics:**

Trees are upright with strong growth vigor. Fruit development period lasts for 95-100 days. Fruits start to color early September, and turned into full red and ripen mid September in Taian, Shandong province. Fruits are oval in shape with an average individual weight of 10.5 g. During ripening period, fruits do not split in rain. Used for dried fruit or as fresh fruit.

**Silvicultural techniques:**

Planting spacing is 2-3m x 3-4 m in plain areas, and along contours at a tree to tree distance of 1.5-2.0 m in mountain areas. Suitable tree form is small crown with sparse branch layers or open-heart shape. Pruning is done by bud picking, topping, branching control through pulling, supporting and girdling. Shoot cutting in initial flowering period. Spray of 10 mg/l GB at the beginning of the peak flowering period to promote fruit setting.

**Suitable areas for planting:**

Areas suitable for growing dates in Shandong, Hebei, Shanxi and Xinjiang provinces.

**Luzao 6**

**Species:** Date

**Scientific name:** *Ziziphus jujuba* 'Luzao 6'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-ZJ- 019-2012

**Characteristics:**

A variety for fresh fruit and ripens late. The fruit development period lasts for 110-120 days. Fruits start to color mid and late September, and turned into full red and ripen early October. Fruits are long cylindrical or conic with flat top with an average individual weight of 12.2 g.

**Silvicultural techniques:**

Plants with a base diameter of 0.8 cm, a height of 80 cm and a well-developed root system are selected for planting, spacing at 2-3m x 3-4 m in plain areas, and along contours at a tree to tree distance of 1.5-2.0 m in mountain areas. Suitable tree form is small crown with sparse branch layers or open-heart shape. Pruning is done by bud picking, topping, branching control through holding, supporting and girdling. No girdling is needed. Young shoots removed in initial flowering period. 1-2 sprays of 10 mg/l GB carried out at the beginning of the peak flowering period to promote fruit setting.

**Suitable areas for planting:**

Areas suitable for growing dates in Shandong, Hebei, Shanxi and Xinjiang provinces.

**Luzao 10**

**Species:** Date

**Scientific name:** *Ziziphus jujuba* 'Luzao 10'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-ZJ- 020-2012

**Characteristics:**

Trees are moderately vigorous, in a shape of natural open-heart. Fruits collected during early and mid September, 95-100 days of fruit growing period. Fruits short-rounded, average individual fruit weight 5.5 g/fruit, suitable for fresh fruit processing.

**Silvicultural techniques:**

Planting spacing is 2-3 m x 3-4 m in plain areas, and along contours at a tree to tree distance of 1.5 m in mountain areas. Suitable tree form is open-heart shape or small crown with sparse branch layers. Pruning is done by bud picking, topping, branching control through pulling, thinning and holding. No girdling and pollen tree are needed. Topping conducted for young shoot during early flowering period and spray of 10 mg/l GB carried out at the beginning of the peak flowering period to promote fruit setting. Fertilizers applied before budding, before flowering and during young fruit period.

**Suitable areas for planting:**

Areas suitable for growing dates in Shandong, Hebei, Shanxi and Xinjiang provinces.

**Xinzhenghong 2**

**Species:** Date

**Scientific name:** *Ziziphus jujuba* 'Xingzhenghong 2'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-ZJ- 021-2012

**Characteristics:**

Open tree form, bark rough in surface, and split in vertical strips. Fruits matured in mid September in Heinan Xinzheng. Around 100 days of fruit growth period. Fruits cylindrical, with an average weight of 11.2 g/fruit. Used freshly, for dried fruits and processed products.

**Silvicultural techniques:**

Flat and fertile sites selected for tree planting. Planting spacing 2 x 3 m. Small-crown with layered branches and open-heart tree forms can be selected for dwarf and densely-planted

orchard. Fertilization done mainly with organic fertilizers supplemented with chemical fertilizers. Irrigation applied during budding, flowering, young fruit period and before defoliation.

**Suitable areas for planting:**

Areas suitable for growing dates in Henan and Xinjiang.

**Huazhong 1**

**Species:** Hardy rubber tree

**Scientific name:** *Eucommia ulmoides* ‘Huazhong 1’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-EU-022-2012

**Characteristics:**

Strong vigor, the crown is compact and in broad conic form. Trees are 15.2 m in height and 21.15 cm in diameter 18 years after planting. Male flowers open from early March to mid April. Used for Chinese medicine.

**Silvicultural techniques:**

Select flat areas or open hilly slopes less than 10 degree with sufficient sunlight and deep soil for planting. Usually planted at a spacing of 3 m x 3 m to 2 m x 2 m, each planting hole applied with 20-30 kg farm manure and 1 kg cake fertilizer. Buds less than 1.5 cm in size removed timely after planting, cut-off trunks used for planting in arid areas where irrigation is impossible.

**Suitable areas for planting:**

Areas suitable for growing hardy rubber tree in Henan and Hubei provinces.

**Huazhong 2**

**Species:** Hardy rubber tree

**Scientific name:** *Eucommia ulmoides* ‘Huazhong 2’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-EU-023-2012

**Characteristics:**

Crown is open and in round oval form. Trees are 14.6 m in height and 16.83 cm in diameter 18 years after planting. Female flowers open from April 1-15. Used for Chinese medicine.

**Silvicultural techniques:**

Select flat areas or open hilly slopes less than 10 degree with sufficient sunlight and deep soil for planting. Usually planted at a spacing of 3 m x 3 m to 2 m x 2 m, each planting hole applied with 20-30 kg farm manure and 1 kg cake fertilizer. Buds less than 1.5 cm in size removed timely after planting, cut-off trunks used for planting in arid areas where irrigation is impossible.

**Suitable areas for planting:**

Areas suitable for growing hardy rubber tree in Henan and Hubei provinces.

**Huazhong 3**

**Species:** Hardy rubber tree

**Scientific name:** *Eucommia ulmoides* ‘Huazhong 3’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-EU-024-2012

**Characteristics:**

Crown is open. Bark is 1.23 cm thick. Trees are 14.6 m in height and 16.83 cm in diameter 18 years after planting. Female flowers open from April 1-15. Gum content of bark is 5.56%. Used for gum extraction and Chinese medicine.

**Silvicultural techniques:**

Select flat areas or open hilly slopes less than 10 degree with sufficient sunlight and deep soil for planting. Usually planted at a spacing of 3 m x 3 m to 2 m x 2 m, each planting hole applied with 20-30 kg farm manure and 1 kg cake fertilizer. Buds less than 1.5 cm in size removed timely after planting, cut-off trunks used for planting in arid areas.

**Suitable areas for planting:**

Areas suitable for growing hardy rubber tree in Henan and Hubei provinces.

**Huazhong 4**

**Species:** Hardy rubber tree



**Scientific name:** *Eucommia ulmoides* ‘Huazhong 4’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-EU-025-2012

**Characteristics:**

Crown is compact and oval in shape. Grafted trees are 15.1 m in height and 18.4 cm in diameter 18 years after planting. Female flowers open from April 1-15. Pinoresinol bioside content of the bark is 0.40%. Used for Chinese medicine.

**Silvicultural techniques:**

Select flat areas or open hilly slopes less than 10 degree with sufficient sunlight and deep soil for planting. Usually planted at a spacing of 3 m x 3 m to 2 m x 2 m, each planting hole applied with 20-30 kg farm manure and 1 kg cake fertilizer. Buds less than 1.5 cm in size removed timely after planting, cut-off trunks used for planting in arid areas.

**Suitable areas for planting:**

Areas suitable for growing hardy rubber tree in Henan and Hubei provinces.

**Huazhong 5**

**Species:** Hardy rubber tree

**Scientific name:** *Eucommia ulmoides* ‘Huazhong 5’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-EU-026-2012

**Characteristics:**

Crown is oval in shape. Grafted trees are 14.8 m in height, 17.6 cm in diameter and 1.29 cm in bark thickness at 18 years after planting. Pinoresinol bioside content of the bark is 0.28%. Used for Chinese medicine.

**Silvicultural techniques:**

Select flat areas or open hilly slopes less than 10 degree with sufficient sunlight and deep soil for planting. Usually planted at a spacing of 3 m x 3 m to 2 m x 2 m, each planting hole applied with 20-30 kg farm manure and 1 kg cake fertilizer. Buds less than 1.5 cm in size removed timely after planting, cut-off trunks used for planting in arid areas.

**Suitable areas for planting:**

Areas suitable for growing hardy rubber tree in Henan and Hubei provinces.

### **Fuao**

**Species:** Olive

**Scientific name:** *Olea europaea* 'Frantoio'

**Type of material:** Introduced exotic variety

**Category of certification:** Certified

**Registration No.:** Guo S- ETS-OE-027-2012

### **Characteristics:**

Strong vigor, naturally rounded crown. Flowering and fruiting start 4 years after filed planting and peaking 8 years after field planting. Fruits are oval to obovate in shape. Fresh fruit mainly used for extraction of edible olive oil.

### **Silvicultural techniques:**

Trees can be planted at the end of spring or during autumn, at a spacing of 4 m x 5 m. Large planting holes (no less than 80 cm in size) prepared for planting, each of which applied with 50-80 kg organic fertilizer. Tree form better to be maintained in hollow round or three main branches in open-heart shape.

### **Suitable areas for planting:**

Areas with altitudes of 1500-2200 m and cool in winter in dry and hot valleys of Jinsha River in Yunnan, central Yunan and Longnan of Gansu.

### **Jinyang**

**Species:** Kiwi fruit

**Scientific name:** *Actinidia chinensis* 'Jinyang'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-AC-028-2012

### **Characteristics:**

Fruit shape is long cylindrical, and pericarp is thin and brownish green. The largest fruit weighs 155g and averaged at 85 g. Flesh is yellow and juicy. Fruiting peaks from the 5<sup>th</sup> year after filed planting. Used for fresh fruit, or processed for juice, preserved fruit and fruit wine.

**Silvicultural techniques:**

The variety requires loose and fertile, well-drained and slight acidic sandy loam. Planting spacing is 4 m x 4-5 m, and appropriate female to male ration is usually 6-8:1. Trellis and T-shaped canopy support are suitable, and only one single stem is kept to grow up. Pruning is conducted timely with attention to thinning of flowers and fruits. Fertilization is carried out 3 times a year. Drought prevention and water conservation are needed in hot and dry season.

**Suitable areas for planting:**

Areas below altitude of 1000 m with slightly acidic soil in Hubei and Shaanxi provinces.

**Jinnong**

**Species:** Kiwi fruit

**Scientific name:** *Actinidia chinensis* ‘Jinnong’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-AC-029-2012

**Characteristics:**

Fruit shape is broad oval, and pericarp is thin and greenish brown. Average individual fruit weight is 80 g, with the largest of 135 g. Fruiting peaks from the 5<sup>th</sup> year after filed planting. Used for fresh fruit, or processed for juice, preserved fruit and fruit wine.

**Silvicultural techniques:**

Sites with loose and fertile, well-drained and slight acidic sandy loam are selected for orchard establishment. Planting spacing is 4 m x 4-5 m. The male parent is ‘Jinxiong 1’ and the appropriate female to male ration is usually 6-8:1. Trellis and T-shaped canopy support are suitable, and only one single stem is left to grow up. Pruning is conducted timely with attention to thinning of flowers and fruits. Fertilization is carried out 3 times a year. Drought prevention and water conservation are needed in hot and dry season.

**Suitable areas for planting:**

Areas below altitude of 1000 m with slightly acidic soil in Hubei and Shaanxi provinces.

**Jinyuan**

**Species:** Kiwi fruit

**Scientific name:** *Actinidia chinensis* ‘Jinyuan’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-AC-030-2012

**Characteristics:**

Fruit is cylindrical in shape, brown in color, with dense napo on surface, not shed. Average individual fruit weight is 70-90 g, with the largest of 100.5 g. Flesh is dark yellow. Fruiting peaks from the 4<sup>th</sup> year after filed planting. Mainly used for fresh fruit, or processed for juice.

**Silvicultural techniques:**

Suitable to use larger row to row distance and smaller tree to tree distance, with a planting spacing of 4-5 m x 3 m. Large trellis or T-shaped canopy support are suitable, main stem is kept at 1.8 m in height, trees are pruned into fish bone form with one main stem and two main branches. Pruning is conducted in summer for young trees, with slight pruning in winter, but mainly in winter and supplemented in summer for mature trees. Thinning of flowers and fruits is conducted timely. Base fertilization is critical, mainly with organic fertilizers and supplemented with P, K fertilizers. Each tree is applied with 50 kg farm manure and 1-2 kg superphosphate. The female to male ratio is kept 6-8:1.

**Suitable areas for planting:**

Areas suitable for growing Kiwi fruit in Hubei, Hunan, Jiangxi and Sichuan provinces.

**Donghong**

**Species:** Kiwi fruit

**Scientific name:** *Actinidia chinensis* ‘Donghong’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-AC-031-2012

**Characteristics:**

Fruit is long cylindrical in shape, greenish brown or yellowish in color, with sparse napo on surface, easy to shed. Average individual fruit weight is 60-75 g, with the largest of 112 g. Flesh is yellow and bright red in the center. Fruiting peaks from the 4<sup>th</sup> year after filed planting.

**Silvicultural techniques:**

Suitable to use larger row to row distance and smaller tree to tree distance, with a planting spacing of 4-5 m x 3 m. Large trellis or T-shaped canopy support are suitable, main stem is kept at 1.8 m in height, trees are pruned into fish bone form with one main stem and two main branches. Pruning is conducted in summer for young trees, with slight pruning in winter, but mainly in winter and supplemented in summer for mature trees. Thinning of flowers and fruits is conducted timely. Base fertilization is critical, mainly with organic fertilizers and supplemented with P, K fertilizers. Each tree is applied with 50 kg farm manure and 2 kg superphosphate. The female to male ratio is kept 6-8:1.

**Suitable areas for planting:**

Areas suitable for growing Kiwi fruit in Hubei, Hunan, Jiangxi and Sichuan provinces.

**Baiqiuza**

**Species:** Sea-buckthorn

**Scientific name:** *Hippophae rhamnoides* × *H. sinensis* ‘Baiqiuza’

**Type of material:** Clone

**Category of certification:** Certified

**Registration No.:** Guo S- SC-HR-032-2012

**Characteristics:**

Shrub, 3.5-4.5 m in height and crown is oval. Fruiting starts from the third to fourth year after filed planting. Fruit ripens early August. Fruit is orange yellow in color, oval or round in shape. Peak fruiting period lasts for more than 8-10 years. Average individual fruit weight is as high as 0.4 g. Thorns are few, and carpodium is 2.0-3.5 mm long.

**Silvicultural techniques:**

Two-year old cutting propagated plants are used for planting, with a female to male ratio of 8:1. Trees are planted in square plots. 3-4 times of timely inter-tillage weeding at a depth of 4-5 cm are conducted every year. Weeds are controlled below 10 cm in height. Soil water content is kept around 60-80%.

**Suitable areas for planting:**

Areas of growing sea-buckthorn in Inner Mongolia and Liaoning.

**Zongqiu**

**Species:** Sea-buckthorn

**Scientific name:** *Hippophae rhamnoides* ‘Zongqiu’

**Type of material:** Clone

**Category of certification:** Certified

**Registration No.:** Guo S- SC-HR-033-2012

**Characteristics:**

Shrub, crown is oval in shape. Fruiting starts from 3-4 years after filed planting. Fruit ripens early August. Fruit is orange yellow in color, oval or round in shape. Peak fruiting period lasts for more than 8-10 years. It has fewer thorns, and carpopodium is 2.0-5.0 mm long.

**Silvicultural techniques:**

Two-year old cutting propagated plants are used for planting, with a female to male ratio of 8:1. Trees are planted in square plots. 3-4 times of timely inter-tillage weeding at a depth of 4-5 cm are conducted every year. Soil water content is kept around 60-80%.

**Suitable areas for planting:**

Areas of growing sea-buckthorn in Inner Mongolia and Liaoning.

**Heiji 6**

**Species:** Sea-buckthorn

**Scientific name:** *Hippophae rhamnoides* 'Heiji 6'

**Type of material:** Clone

**Category of certification:** Certified

**Registration No.:** Guo S- SC-HR-034-2012

**Characteristics:**

Shrub, 2.5-3.0 m in height. Crown is oval in shape. Fruiting starts from 3-4 years after filed planting. Fruit ripens early August. Fruit is orange yellow in color, oval or round in shape. Peak fruiting period lasts for more than 8-10 years. Few thorns or none, and carpopodium is 2.0-3.0 mm long.

**Silvicultural techniques:**

Two-year old cutting propagated plants are used for planting, at a spacing of 1.5 m x 3 m for manual management and 2m x 4 m for mechanical management, with a female to male ratio of 8:1. Trees are planted in square plots. 3-4 times of timely inter-tillage weeding at a depth of 4-5 cm are conducted every year. Soil water content is kept around 60-80%.

**Suitable areas for planting:**

Areas of growing sea-buckthorn in Inner Mongolia, Liaoning, Heilongjiang and Xinjiang.

### **Liaofu 1**

**Species:** Sea-buckthorn

**Scientific name:** *Hippophae rhamnoides* 'Liaofu 1'

**Type of material:** Clone

**Category of certification:** Certified

**Registration No.:** Guo S- SC-HR-035-2012

### **Characteristics:**

Shrub, crown is oval in shape. Fruiting starts from 3-4 years after filed planting. Fruit ripens early August. Fruit is orange yellow in color, oval in shape. Peak fruiting period lasts for more than 8-10 years. Average individual fruit weight is 0.45-0.70 g.

### **Silvicultural techniques:**

Two-year old cutting propagated plants are used for planting, with a female to male ratio of 8:1. Trees are planted in square plots. 3-4 times of timely inter-tillage weeding at a depth of 4-5 cm are conducted every year. Soil water content is kept around 60-80%.

### **Suitable areas for planting:**

Areas of growing sea-buckthorn in Inner Mongolia, Liaoning, Heilongjiang and Xinjiang.

### **Daifeng**

**Species:** Walnut

**Scientific name:** *Juglans regia* 'Daifeng'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-JR-036-2012

### **Characteristics:**

Relatively strong vigor, oblong nut with an individual nut weight of 14-15 g, relatively smooth surface and the shell is 0.9-1.1 mm thick. Complete kernel obtainable, 55-60% kernel production rate. Used as fresh or for oil extraction.

### **Silvicultural techniques:**

Planting spacing is 4 m x 5 m or 3 m x 6 m in plain areas, and 3 m x 4 m or 3 m x 3 m in

hilly and mountainous areas. Tree form is main stem with sparse branch layers or natural open-heart. Mainly winter pruning. Usually apply base fertilizer during dormant period and additional fertilizers during growing season. Irrigation is conducted before budding, during kernel hardening and before winter freeze.

**Suitable areas for planting:**

Areas of growing walnut tree in Shandong, Shanxi, Shaanxi, Hebei and Hubei provinces.

**Daixiang**

**Species:** Walnut

**Scientific name:** *Juglans regia* ‘Daixiang’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-JR-037-2012

**Characteristics:**

Strong vigor and healthy, round nut with an individual nut weight of 13.0-15.6 g, shell is 0.9-1.2 mm thick. Used as fresh or for oil extraction.

**Silvicultural techniques:**

Planting spacing is 4 m x 5 m or 3 m x 6 m in plain areas, and 3 m x 4 m or 3 m x 3 m in hilly and mountainous areas. Tree form is main stem with sparse branch layers or natural open-heart. Mainly winter pruning. Usually apply base fertilizer of in autumn and additional fertilizers in growing season. Application of 5-8 kg/tree organic fertilizer for young trees, with 2-3 additional fertilizers in a year, mainly before flowering or during the differentiation of flower buds. Fertilization is mainly done with N at early stage and compound fertilizer of NPK at later stage. It is critical Irrigation is conducted before budding, during kernel hardening and before winter freeze.

**Suitable areas for planting:**

Areas of growing walnut tree in Shandong, Shanxi, Shaanxi, Hebei and Hubei provinces.

**Luhe 1**

**Species:** Walnut

**Scientific name:** *Juglans regia* ‘Luhe 1’

**Type of material:** Variety

**Category of certification:** Certified



**Registration No.:** Guo S- SV-JR-038-2012

**Characteristics:**

Upright tree form, average annual growth is 1.61 cm in DBH and 159 cm in height at 3 years old. Conic nut with an individual fruit weight of 13.2 g, shell thickness is 1.1-1.2 mm. Used for fresh fruit or for oil extraction.

**Silvicultural techniques:**

Planting spacing is 4-5m×5-6m. Tree form is usually in a single main stem with sparse branch layers, or in natural round, with 5-7 main branches arranged in multiple layers or single layer. 2-3 supplementary fertilization yearly, respectively prior to flowering and during the differentiation period of flower buds, and thinning of dense, weak and dropping branches. Perennial fruiting branches are cut off to rejuvenate and strengthen the branches. Irrigation is conducted before budding, during hardening of the nut kernel and before winter freeze.

**Suitable areas for planting:**

Areas of growing walnut tree in Shandong, Shanxi, Shaanxi, Hebei and Hubei provinces.

**Luguo 2**

**Species:** Walnut

**Scientific name:** *Juglans regia* 'Luguo 2'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-JR-039-2012

**Characteristics:**

The nuts are cylindrical in form. Individual fruit weight is 14-16 g, shell thickness is 0.9-1.1 mm. Nut kernel is easily separated with a production rate of 55-60%. Used for fresh fruit or for oil extraction.

**Silvicultural techniques:**

Planting spacing is 4 m×5 m or 3 m×6 m in plain areas and 4-5 m between trees along the contours in mountain areas. Pollination trees are deployed at a ratio to female trees of 1:8. Tree form is usually in a single main stem with sparse branch layers. Pruning is conducted mainly in winter. Base fertilizers usually applied during dormancy and supplementary fertilizers applied during growing seasons. Base fertilizers usually applied after defoliation in autumn or before budding in spring. Irrigation is conducted before budding, during hardening of the nut kernel and before winter freeze.

**Suitable areas for planting:**

Areas of growing walnut tree in Shandong, Shanxi, Shaanxi, Hebei and Hubei provinces.

**Youyi**

**Species:** Cherry

**Scientific name:** *Prunus avium* 'Youyi'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PA-040-2012

**Characteristics:**

Tree growth is moderately vigorous. Fruit is heart-shaped, with an average individual fruit weight of 10.78 g, and scarlet in color when matured, bright and shining, tastes sour and sweet. Used as fresh fruit or processed for juice, jam and preserved fruit.

**Silvicultural techniques:**

Trees are dwarfed and densely planted in wide rows or inter-cropped with herbaceous plants, at a spacing of 2-3 m x 4.5-5 m. Pollination varieties are 'Victory', 'Rainey', 'Pioneer' and 'Lapins'. Tree shape is kept in fusiform or Aussie Bush. Supplementary fertilization is carried out in autumn, before flowering and after harvesting.

**Suitable areas for planting:**

Areas of growing cherry trees in Shandong, Liaoning, Beijing, Henan and Shanxi provinces.

**Zaodaguo**

**Species:** Cherry

**Scientific name:** *Prunus avium* 'Zaodaguo'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PA-041-2012

**Characteristics:**

Tree growth is healthy and vigorous. Fruit is nearly round in shape. Pericarp is purplish red when matured. Average individual fruit weight is 9.8 g, with the largest of 16.10 g. Early fruiting, usually start to bear fruit at 3-4 years old, and peaking period from 5-6 years old. Used as fresh fruit or processed for juice, jam and preserved fruit.

**Silvicultural techniques:**

Trees are dwarfed and densely planted in wide rows or inter-cropped with herbaceous plants, at a spacing of 2-3 m x 4.5-5 m. Pollination varieties are 'Red light', 'Brooks', 'Lapins' and 'Summit'. Tree shape is kept in fusiform or Aussie Bush. Supplementary fertilization is carried out in autumn, before flowering and after harvesting.

**Suitable areas for planting:**

Areas of growing cherry trees in Shandong, Liaoning, Beijing, Henan and Shanxi provinces.

**Jinmeixia**

**Species:** Peach

**Scientific name:** *Prunus persica* 'Jinmeixia'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PP-042-2012

**Characteristics:**

Tree growth is relatively vigorous. Fruit is nearly round and slightly compressed, with an average individual fruit weight of 202.1 g and larger weight of 283 g. Peak fruiting period starts from the third year after grafting. Used for fresh fruit.

**Silvicultural techniques:**

Sites with good drainage, thick soil and sufficient sunlight are selected for orchard establishment. Appropriate spacing for field planting is 5m x 3 m or 6 m x 4 m. Additional base fertilizer is mainly with organic fertilizer, supplemented with P and K fertilizers. Supplementary fertilization should be combined N, P and K. Timely pruning is needed to improve sunlight and enhance fruit coloring. Thinning conducted to retain appropriate number of fruits. Winter pruning is carried out on long branches, to keep appropriate or sufficient reserve branches.

**Suitable areas for planting:**

Areas of growing peach trees in Beijing, Shandong and Shanxi.

**Wangchun**

**Species:** Peach

**Scientific name:** *Prunus persica* 'Jinmeixia'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PP-043-2012

**Characteristics:**

Tree growth is moderately vigorous. Fruit is nearly round and slightly long, with an average individual fruit weight of 191.3 g. Used for fresh fruit.

**Silvicultural techniques:**

Sites with good drainage, thick soil and sufficient sunlight are selected for orchard establishment. Appropriate spacing for field planting is 5m x 3 m or 4 m x 3 m. Additional base fertilizer is mainly with organic fertilizer, supplemented with P and K fertilizers. Supplementary fertilization should be combined N, P and K, and it is best to apply the special fertilizer for fruit trees after the fall of flowers. Timely summer pruning is needed to improve sunlight and enhance fruit coloring. Thinning conducted to retain appropriate number of fruits. Winter pruning is carried out on long branches, to keep appropriate or sufficient reserve branches.

**Suitable areas for planting:**

Areas of growing peach trees in Beijing, Shandong and Shanxi.

**Chunmei**

**Species:** Peach

**Scientific name:** *Prunus persica* ‘Chunmei’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PP-044-2012

**Characteristics:**

Tree growth is moderately vigorous. Fruit is oval or round, with moderately long hairs on pericarp. The base color of the pericarp is greenish white. Majority or entire fruit surface is colored in bright red or purplish red. Average individual fruit weight is 165-188 g. Used for fresh fruit.

**Silvicultural techniques:**

A spacing of 4 m x 3 m is used for plantings in mountain and hilly areas or in poor soils. Pruning is conducted to keep trees in natural open-heart form. Larger spacing of 2 m x 5 m or 3 m x 5 m can be used in fertile soils, respectively pruned to be in forms of “Y” or “open

–heart”. After the peak fruiting period, sufficient base fertilizers applied in October every year (4000 kg organic fertilizer per Mu), supplementary fertilizers of well decomposed human wastes or NPK compound fertilizer applied after the fading of flowers. After hardening of the kernel, leave spray of Monopotassium phosphate is applied once every 10 days. PK fertilizer is applied after fruit harvesting.

**Suitable areas for planting:**

Areas of growing peach trees in Henan, Hebei, Shandong, Sichuan and Zhejiang.

**Chunmi**

**Species:** Peach

**Scientific name:** *Prunus persica* ‘Chunmi’

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-PP-045-2012

**Characteristics:**

Tree growth is moderately to slightly strong vigorous. Fruit is oval or round, with moderately long hairs on pericarp. The base color of the pericarp is greenish white. The entire fruit surface is colored in bright red or purplish red. Average individual fruit weight is 135-162 g. Used for fresh fruit.

**Silvicultural techniques:**

A spacing of 4 m x 3 m is used for plantings in mountain and hilly areas or in poor soils. Pruning is conducted to keep trees in natural open-heart form. Larger spacing of 2 m x 5 m or 3 m x 5 m can be used in fertile soils, respectively pruned to be in forms of “Y” or “open –heart”. After the peak fruiting period, sufficient base fertilizers applied in October every year (4000 kg organic fertilizer per Mu), supplementary fertilizers of well decomposed human wastes or NPK compound fertilizer applied after the fading of flowers. After hardening of the kernel, leave spray of Monopotassium phosphate is applied once every 10 days. PK fertilizer is applied after fruit harvesting. Sufficient water supply should be guaranteed.

**Suitable areas for planting:**

Areas of growing peach trees in Henan, Hebei, Sichuan and Zhejiang.

**Huamei**

**Species:** Apple

**Scientific name:** *Malus domestica* 'Huamei'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-MD-046-2012

**Characteristics:**

Tree growth is healthy and vigorous. Fruit is round in shape. The form index of fruit is 0.84. Average individual fruit weight is 195.2 g. Fruit surface is yellowish green in base color, and brightly red when the fruit is entirely colored. Coloring index is larger than 80%. Fruiting starts from the 3<sup>rd</sup> year after field planting. Used for fresh fruit.

**Silvicultural techniques:**

Trees can be grown in hilly and mountain areas, flat land and river basin. *Malus spectabilis* is used as rootstock for grafting when grown in mountain areas, and the spacing is 3-4 m x 4-4.5 m. Tree form is kept in fusiform. In fertile plain land, dwarfed inter stock or dwarfed self-rooted rootstock can be used with a spacing of 2-2.5 m x 4 m and tree form is kept in long spindle-shaped. Pollination trees should be deployed during orchard establishment, special pollination trees can be planted in mixture with the fruiting trees. Sufficient organic fertilizer is applied in holes, organic fertilizer is applied in autumn during fruiting period.

**Suitable areas for planting:**

Areas of growing peach trees in Henan, Hebei, Shandong and Sha'anxi.

**Jiufeng 1**

**Species:** Honeysuckle

**Scientific name:** *Lonicera japonica* 'Jiufeng 1'

**Type of material:** Variety

**Category of certification:** Certified

**Registration No.:** Guo S- SV-LJ-047-2012

**Characteristics:**

Tetraploid variety. Peak production starts from the 4<sup>th</sup> year after field planting. Flower bud is big, usually 4.9 cm long, and the longest can reach 6.5 cm long. Chlorogenic acid content in the flower is 4.3%, Luteoloside content is 0.09%.

**Silvicultural techniques:**

In plain and low-lying areas, ridging or furrow field can be used for growing trees. In mountainous and hilly areas, ridging along contours or fish-scale planting holes can be used. Tree planting is best in spring and autumn. Planting holes in size of 30 cm x 30 cm x 30 cm are prepared and trees planted in bunches with a spacing of 1 m x 1.5 m. Organic fertilizer is mainly applied with chemical fertilizers as supplementary fertilizer. Irrigation carried out before budding in early spring and before entering winter.

**Suitable areas for planting:**

Areas of growing honeysuckle trees in Beijing, Hebei, Shandong and Yunnan.

**Hicksii Media Yew**

**Species:** Media Yew

**Scientific name:** *Taxus media* ‘Hicksii’

**Type of material:** Domesticated exotic variety

**Category of certification:** Certified

**Registration No.:** Guo S- ETS-TM- 048-2012

**Characteristics:**

An evergreen conifer species, dioecious. Crown is oval with upright branches. Leaves are arranged in radial pattern, and colored in dark greenish olive, lateral roots well developed. Taxol content reaches 0.6-0.9%. The taxol and its derivatives can be used as the source of raw material for extraction of anti-cancer drugs

**Silvicultural techniques:**

Two-year old trees are used for planting. Fish-scale site preparation is suitable for mountain slopes and steep mountains (>20 °). Ridging site preparation is suitable in gentle slopes (<20 °), valleys and hilly areas. Summer temperature should not be over than 35 °C for long time. Shading net can be deployed with regular irrigation to conserve the moisture of soil.

**Suitable areas for planting:**

Suitable areas for growing *Taxus* in Sha’anxi, Liaoning and Shandong.

**Pre-certified species**

**Euramerican poplar 2012**

**Species:** Poplar

**Scientific name:** *Populus ×euramericana* ‘Portugal’

**Type of material:** Domesticated exotic variety

**Category of certification:** Pre certified for 5 years

**Registration No.:** Guo R- ETS-PE- 001-2012

**Characteristics:**

It is a female clone of Euramerican poplar. The stem is straight and fully round with a narrow crown. Wood fiber length is 0.578 mm and basic wood density is 0.3275 g/cm<sup>3</sup>. Used for pulp and panel production.

**Silvicultural techniques:**

Trees are propagated by cutting. Scions for cutting propagation are collected from the middle and lower part of the stem of better lignified one-year old plants after defoliation in autumn and stored over the winter and used for rooting in spring. The stocking density of cutting propagation is 3000 stocks/Mu. Sufficient watering applied immediately after cuttage. Shoot cutting, micro-cutting in shaded conditions and tissue culture can also be used for propagation. Sandy loam, loam and light loam are suitable for growing the variety. Salinity and mountain areas are not suitable for growing the variety.

**Suitable areas for planting:**

Areas suitable for growing poplars in Beijing, Hebei, Henan and northern Shandon.

**LA Provenance of Shumard oak**

**Species:** Schumard oak

**Scientific name:** *Quercus shumardii*

**Type of material:** Provenance

**Category of certification:** Pre certified for 5 years

**Registration No.:** Guo R- SP-QS- 002-2012

**Characteristics:**

A large deciduous tree, it prefers light and wet. Stem is straight and sparsely branched. Early sprouting in spring (usually early March) and later defoliation in autumn (usually end of December to early January), leaf color is purplish red, red to reddish brown. Used for protection forests in low and wet plain areas, gardening and roadside trees.

**Silvicultural techniques:**

Low and wet riverside and pool side soils, alluvial load or paddy soils selected for tree planting. One-year old bare rooted stocks or container raised stocks are used for planting at



a spacing of 2 m x 3 m. Lateral branches below 1.5 m of the stem are cut off in the third year after planting.

**Suitable areas for planting:**

Plain areas in Zhejiang, Shanghai and Jiangsu.

**Yundo Catalpa**

**Species:** *Catalpa bungei*

**Scientific name:** *Catalpa bungei* ‘Yunduo’

**Type of material:** Clone

**Category of certification:** Pre certified for 3 years

**Registration No.:** Guo R- SC-CB- 003-2012

**Characteristics:**

Umbel is terminal, with a length of 9-16 cm. Purplish red dots densely distributed on inner corolla, the lower sepals have 2 yellow stripes on the inner side. Start to flowering 4 years old, gradually increase in flower number and stabilized after 10 years of age. Flowering period is usually 15 days. Flowers are white in color, used for flower appreciation.

**Silvicultural techniques:**

Circle or square plating holes prepared in size of 50-60 cm in diameter and 50 cm in depth. Trees are usually planted from March to early April. Stumping at 4-5 cm above the graft union after planting and covered with wax to prevent water loss. Lateral buds removed when the grafted scion grows to 10-15 cm long and only keep the healthy terminal bud for stem development. Pruning should be conducted from the third year after planting.

**Suitable areas for planting:**

Areas suitable for growing Catalpa in Henan, Gansu and Hubei provinces.

**Red leaf crape myrtle**

**Species:** Crape myrtle

**Scientific name:** *Lagerstroemia indica* ‘Pink Velour’

**Type of material:** Domesticated exotic variety

**Category of certification:** Pre certified for 5 years

**Registration No.:** Guo R- ETS-LI- 004-2012

**Characteristics:**

Tree reaches 3.6 m in height. New leaves are wine red in color and old leaves are green with purplish red. Foliage is thick and leathery. New branches are red. Flower color is dark pink. Florescence is 15-30 cm long. Initial flower starts from late June or early July, and flowering period lasts for more than 4 months.

**Silvicultural techniques:**

Leeward and sun-facing sites with deep, fertile and good drainage are selected for growing the variety at spacing of 2 m x 2 m. Planting holes in size of 40 cm x 40 cm x 40 cm are prepared and each applied with 0.5-0.75 kg cake manure of vegetables and decomposed organic fertilizers, sufficient irrigation applied immediately after planting, and repeated once 3 days later. Cold damage should be prevented during the young stage until 3 year old or above.

**Suitable areas for planting:**

Areas suitable for growing Crape myrtle in Hunan, Zhejiang, Jiangsu and Yunnan provinces.

**Chenshan red heart fir**

**Species:** Chinese fir

**Scientific name:** *Cunninghamia Lanceolata*

**Type of material:** Provenance

**Category of certification:** Pre certified for 5 years

**Registration No.:** Guo R- SP-CL- 005-2012

**Characteristics:**

Stem is straight and full. Slow growth at early stage and becomes fast at later stage. Basic wood density is 0.3240 g/cm<sup>3</sup>, Later wood percentage is 24.1%, fiber length is 3602 μm. The percentage of red heart-wood at breast height is 50.5%. Used for fast growing and high yielding plantations, shelterbelt forests and urban plantings.

**Silvicultural techniques:**

Trees best to be planted in cloudy days after raining from the end of winter to early spring. Initial planting spacing is 2 m x 2 m. Tending is needed twice a year during 1-3 years to remove grass roots, shrub stumps and sprouts, and to loosen the soil around trees at a depth of about 10 cm. Remove shrubs, grasses and vines that affect the growth of young trees. Fertilization of 150-180 kg/ha dried cake manure, organic fertilizer and calcium magnesium phosphate fertilizer applied for young trees. 300-375 kg/ha of Urea and

750-900 kg/ha applied around the trunk at 8-10 years old. Single time thinning conducted at 8-10 years old, to keep the stocking density of 1200 trees/ha.

**Suitable areas for planting:**

Areas suitable for growing Chinese fir in Jiangxi, Fujian and Guangdong provinces.

**Note: Pre-certified varieties must not be used as improved varieties when the pre-certification expires and need to apply again for variety certification.**