

附件

2023年度林木良种名录 (中英文)

审定通过品种

1. 兰溪木荷一代无性系种子园种子

树种：木荷 学名：*Schima superba* ‘Lanxi muhe yidai wuxingxi
zhongziyuan zhongzi’
类别：无性系种子园种子 通过类别：审定
编号：国S-CSO(1)-SS-001-2023
申请人：中国林业科学研究院亚热带林业研究所、兰溪市苗圃
选育人：周志春、张蕊、张振、姚进、滕国新、范金根、金国庆

品种特性

干形通直圆满。在浙江省开化、建德、龙泉、江西分宜和福建漳州等地点4年生平均树高、胸径和单株材积分别为3.02 m、3.01 cm和0.0015 m³，分别比使用当地优良天然林分种子造林高14.96%、14.53%和51.19%；在江西省信丰县7年生平均树高、胸径和单株材积分别为4.46 m、4.68 cm和0.0110 m³，分别比使用当地优良天然林分种子造林高23.20%、27.17%和103.70%。

主要用途

防护林、生态林树种。

栽培技术要点

初春造林。选择立地指数14以上的宜林地，块状或带状整地，株距2 m~2.5 m、行距2.5 m~3 m，挖穴40 cm×40 cm×30 cm栽植。可采用纯林或与杉木、马尾松等树种混交造林。造林后3~4年，采用扩穴或全锄抚育2~3次，林分郁闭后进行去劣疏伐。

适宜种植范围

浙江、福建、江西等木荷适宜栽培区。

2. ‘黑防3号’杨

树种：杨树 学名：*Populus* ‘Heifang 3’
类别：品种 通过类别：审定
编号：国S-SV-PH-002-2023
申请人：黑龙江省林业科学院齐齐哈尔分院
选育人：张强、毕宇、张金旺、周雪峰、王厚彬、杨春柳、王静、付志祥、阿茹娜、赵曦阳、王福森、周丽君、邢政华、刘晓萌

品种特性

雄株，树皮光滑翠绿色。在吉林省通榆县（盐碱化黑钙土）30年生平均树高、胸径和单株材积分别为17.90 m、28.10 cm、0.5182 m³，其中单株材积超过对照白城小黑杨63.57%；

10年生木材绝干密度0.37 g/cm³，纤维长度0.973 mm，纤维长宽比50。在黑龙江省齐齐哈尔市年最低温-37.2℃下未见冻害。耐盐量≤0.2%。

主要用途

防护林、用材林树种。

栽培技术要点

适宜在温和、半湿润、半干旱气候条件的沙壤土、黑土及草甸土栽植。干旱年份苗期易感染青杨锈病，可用25%粉锈宁稀释800倍后每隔7~15天防治1次。造林选用二根一干或二根二干苗。植苗造林、机械开沟造林或钻孔造林。株行距2 m×3 m、3 m×3 m或4 m×3 m。造林后加强修枝，以减轻速生造成树干弯曲度，8~12年可采伐利用。

适宜种植范围

黑龙江、吉林、内蒙古等杨树适宜栽培区。

3. ‘京丰1号’杨

树种：杨树

学名：*Populus* ‘Jingfeng 1’

类别：无性系

通过类别：审定

编号：国S-SC-PJ-003-2023

申请人：北京林业大学

选育人：张平冬、康向阳、李 赟、马 晶、张 锋、李金忠、王振龙、王洪峰、林 涵

品种特性

三倍体雌株，树干通直，树皮灰绿色，光滑；树形开展，长卵形。河北、山西、山东区域试验中，9年生平均材积可达21.70 m³/亩，比对照‘北林5号’杨、‘三毛杨11号’分别高出28.2%和34.8%；木材基本密度0.37 g/cm³，比对照‘北林5号’杨、‘三毛杨11号’分别高出5.2%和10.6%。

主要用途

用材林树种。

栽培技术要点

春季造林为主，密度为500株/hm²~1500株/hm²。选用地势平坦、土层深厚的平川地。当年生苗造林，起苗后重度修剪或截干。采用穴植造林，造林后及时浇水，第三年开始追肥。

适宜种植范围

河北、山西、山东等杨树适宜栽培区。

4. ‘中雄4号’杨

树种：杨树

学名：*Populus deltoides* × *P. suaveolens* ‘Zhongxiong 4’

类别：品种

通过类别：审定

编号：国S-SV-PD-004-2023

申请人：中国林业科学研究院林业研究所

选育人：丁昌俊、苏晓华、王福森、李 晶、黄秦军、张伟溪

品种特性

雄株，树干通直，树皮浅黄绿色。在黑龙江省富裕县13年生平均树高17.11 m、胸径20.53 cm、单株材积0.2707 m³，分别超过对照小黑杨8.02%、38.99%、112.81%。木材绝干密度0.39 g/cm³。11年生木材纤维长度1351 μm，纤维长宽比64.2，腔壁比为0.31。在黑龙江省齐齐哈尔市富裕县年最低温-35.2℃下未见冻害。耐盐量≤0.2%。

主要用途

用材林、防护林树种。

栽培技术要点

采用二根一干、二根二干苗植苗造林，胶合板材等中大径级材培育，初植密度为4 m×4 m 或3 m×4 m；小径级材培育，初植密度为2 m×3 m、2 m×4 m 或3 m×3 m；极端天气苗木越冬易产生日灼伤，需进行水分调控、涂刷白灰等防护。

适宜种植范围

黑龙江、内蒙古、辽宁等杨树适宜栽培区。

5. ‘金镶玉’黄槽竹

树种：黄槽竹

学名：*Phyllostachys aureosulcata* ‘Jinxiangyu’

类别：无性系

通过类别：审定

编号：国S-SC-PA-005-2023

申请人：南京林业大学

选育人：林树燕、袁金玲、丁雨龙、王福升、刘国华、赵奇僧、禹在定、禹迎春、王琴、张运山、张毕武、赵丹丹、王云

品种特性

中小型散生竹，秆高5 m~6 m，直径3 cm~5 cm，中部节间长15~20 cm。新竹秆为嫩黄色，后渐为金黄色，各节分枝一侧的沟槽呈现绿色，每节两分枝。叶片绿色，少数叶有黄白色条纹，叶长7 cm~15 cm，叶宽1 cm~1.5 cm。

主要用途

观赏品种。

栽培技术要点

造林和造景时选择2~3年生母竹。挖取母竹应留来鞭10 cm和去鞭15 cm、直径30 cm~35 cm左右的土球。取竹时一般不去梢，但应摘除2/3的竹叶。一般以竹笋出土前1个月，平均气温在15℃以上便可移竹育苗。按照1 m×1.2 m的栽植密度，开沟挖穴，挖穴规格为40 cm×40 cm×60 cm，积水、长期浸渍低洼地、风口处不宜种植。

适宜种植范围

江苏、浙江、安徽等黄槽竹适宜栽培区。

6. ‘青砧1号’苹果

树种：苹果

学名：*Malus* ‘Qingzhen 1’

类别：品种

通过类别：审定

编号：国S-SV-MQ-006-2023

申请人：青岛市农业科学研究院

选育人：沙广利、葛红娟、马荣群、孙吉禄、尹涛、黄粤、张蕊芬、王继勋、闫鹏、

梅 闯、张东亚、陈淑英、冯贝贝、秦德明、石 游、郭秀玲、李 国、王绍华

品种特性

树形柱型，树势中庸，树姿直立，干性强，不需设立支架，无融合生殖率97.0%~98.1%。作为基础嫁接‘嘎啦’‘烟富3’和‘烟富6’苹果成活率95%左右，亲和性好，无大小脚现象。山东省东营市广饶县嫁接‘富士’苹果盛果期亩产量可达3928 kg，是以对照‘M9T337’为中间砧产量的1.18倍；分枝数较对照提高了16%。

主要用途

砧木品种。

栽培技术要点

适宜嫁接短枝形品种。一年生实生苗嫁接高度为20 cm~25 cm，二年生实生苗嫁接高度50 cm~70 cm。一般土壤条件株行距2.5 m×4 m栽植为宜；无灌溉条件的山地或贫瘠土地，株行距2 m×4 m栽植为宜。8月后停止水肥供应，如果7月~9月雨水多，需使用激素类药物控制生长或断根处理。

适宜种植范围

山东、宁夏、新疆等苹果适宜栽培区。

7. ‘青砧2号’ 苹果

树种：苹果

学名：*Malus* ‘Qingzhen 2’

类别：品种

通过类别：审定

编号：国S-SV-MQ-007-2023

申请人：青岛市农业科学研究院

选育人：沙广利、葛红娟、马荣群、黄 粤、孙吉禄、张蕊芬、梅 闯、闫 鹏、王继勋、唐 金、宋 卫、刁永强、张振军、陶 俊、马友福、虎海防、何高明、孙 蹇

品种特性

树冠圆形，树姿开张，树势中等，树形分枝形；干性强，可无支架栽培，无融合生殖率88.9%~95.0%。作为基础嫁接‘嘎啦’‘烟富3’和‘烟富6’成活率95%左右，亲和性好无大小脚现象。山东省东营市广饶县嫁接‘富士’盛果期亩产量可达3638 kg，较对照‘M9T337’为中间砧提高了9%。

主要用途

砧木品种。

栽培技术要点

适宜嫁接短枝形品种。嫁接高度60 cm~70 cm。一般土壤条件株行距2 m×4 m栽植为宜；无灌溉条件的山地或贫瘠土地，株行距1.5 m×4 m栽植为宜。8月后停止水肥供应，如果7月~9月雨水多，需使用激素类药物控制生长或断根处理。

适宜种植范围

山东、宁夏、新疆等苹果适宜栽培区。

8. ‘鲁北’ 枣

树种：枣

学名：*Ziziphus Jujuba* ‘Lubei’

类别：品种 通过类别：审定

编号：国S-SV-ZJ-008-2023

申请人：山东省果树研究所

选育人：张琼、王中堂、郭裕新、周广芳、唐海霞、王守乐、李盼、亓雪龙、朱毅、王世镇

品种特性

冬枣品种。树体小，树姿开张。果实近圆形，大小整齐，果面平整，皮薄肉脆；平均单果重14.0 g，最大单果重23.2 g。在新疆喀什盛果期亩产量可达865 kg，可食率达96.9%。总糖含量26.67 g/100 g，总酸含量0.23 g/kg，Vc含量0.22 g/100 g，可溶性固形物含量30.2%。晚熟，十月初成熟采收。气调库内可存贮2个月以上。

主要用途

鲜食。

栽培技术要点

春季萌芽前或冬枣苗落叶后至封冬前栽。挖好丰产穴、丰产沟，施足底肥，回填表土，然后挖定植穴。一般土壤肥沃的地块每亩可栽植111株或84株，土地较瘠薄的盐碱地，可适当密植，以提高土地的利用率。盛花期环剥，以提高坐果率。

适宜种植范围

山东、山西、陕西、新疆等枣适宜栽培区。

9. ‘鲁丽’苹果

树种：苹果

学名：*Malus domestica* ‘Luli’

类别：品种

通过类别：审定

编号：国S-SV-MD-009-2023

申请人：山东省果树研究所

选育人：王海波、何平、王森、何晓文、常源升、郑文燕、李林光、李元、王旭光

品种特性

树姿开张，成枝力强。果实果形指数0.90，果实发育期110天，比‘皇家嘎啦’苹果成熟期早10天；无袋条件下果实全面着浓红色，着色度90%以上；平均单果重193.6 g，可溶性固形物含量14.3%，Vc含量2.5 mg/100 g，总酸含量2.14 g/kg。在河北省保定市盛果期亩产量可达2632.7 kg，较对照‘皇家嘎啦’苹果提高了39.9 kg。

主要用途

鲜食。

栽培技术要点

宜采用矮化栽培模式建园，纺锤形树形。采用矮砧嫁接的健壮脱毒苗木，每亩栽植83株~190株。授粉树可选择‘富士’系、‘元帅’系，配置比例为4~5:1。开花前、幼果膨大期追肥。在果树萌芽前后到开花前，灌花前水。花后40天内，适时补水。11月中旬前后，及时灌足封冻水。成熟前15天左右需要将果实周围的叶片摘除，保证充分着色。

适宜种植范围

山东、河南、河北、新疆等苹果适宜栽培区。

10. ‘秋香’核桃

树种：核桃

学名：*Juglans regia* ‘Qiuxiang’

类别：品种

通过类别：审定

编号：国S-SV-JR-010-2023

申请人：山东省果树研究所、中国林业科学研究院林业研究所

选育人：陈新、张俊佩、张美勇、王贵芳、田鑫、牛红云、王红霞、孟晓焯、赵勇、徐颖、武静、雷玲、许海峰、相昆、周晔、王晓芳、宫小迪、李国田

品种特性

树势健壮，树姿开张。在山东省泰安市4月下中旬雌花盛期，比‘香玲’核桃晚15天左右，可有效避开早春晚霜危害。9月上旬果实成熟。坚果圆形，壳面光滑，平均单果重12.8 g，壳厚0.9 mm~1.1 mm，易取整仁，出仁率58.6%，种仁脂肪含量65.9%，味香不涩；在山东泰安盛果期干果亩产量可达209.7 kg，较对照‘香玲’核桃提高23.2 kg。

主要用途

鲜食、炒食。

栽培技术要点

平原地区栽植密度为4 m×5 m 或4 m×6 m，定干高度1.0 m~1.2 m，丘陵山坡地栽植密度4 m×4 m或4 m×5 m，定干高度0.8 m~1.0 m。配置‘中林3号’、‘中林6号’核桃等品种做授粉树，配置比例为8~10:1。适宜树形为疏散分层形和主干形，冬剪为主。秋施基肥，采收后或春季发芽前施用厩肥和堆肥，生长季追肥。萌芽前、果实硬核期和冬季封冻前灌水。进入盛果期，加强肥水管理。

适宜种植范围

山东、山西、河北等核桃适宜栽培区。

11. ‘齐云山7号’南酸枣

树种：南酸枣

学名：*Choerospondias axillaris* ‘Qiyunshan 7’

类别：品种

通过类别：审定

编号：国S-SV-CA-011-2023

申请人：江西齐云山食品有限公司、中国林业科学研究院林业研究所

选育人：古和群、凌华山、刘继延、林富荣、郑勇奇、陈后荣、何利人、陈鼎沪、韦春花、刘金萍、余孟杨、吴善群、冯运周、朱德宝、何庆荣、范佳群

品种特性

树皮灰褐色。果形圆形，成熟为金黄色，果肉颜色白色或略带淡黄色，平均单果重20.1 g，果肉含量55.4%，蛋白质含量0.97 g/100 g，总氨基酸含量2.81 g/100 g，Vc含量0.24 g/100 g，单宁含量1.2 g/100 g。江西省崇义县始熟期9月下旬，盛果期亩产1000 kg~1300 kg。

主要用途

鲜食、食品加工。

栽培技术要点

选择海拔300 m~1200 m山脚、山谷，土层肥厚或较肥厚的红壤、黄红壤宜林地建园。行距7 m~8 m，株距6 m~7 m，配置雄株授粉树3 株/hm²~5 株/hm²。定植后在离地约1米处

留3~4个主枝，主枝萌发后在80 cm处短截，每个主枝再留3~4个侧枝，1年内需松土、除草、施肥。成年树可于每年2至3月萌芽期在树冠外两侧挖宽20 cm、深50 cm的沟，施有机肥5 kg/株~10 kg/株；4月下旬至5月下旬开花期，株施有机肥10 kg/株~15 kg/株、石灰1 kg/株；6至7月果实膨大期腐熟的绿肥与饼肥10 kg/株，并辅以少量磷钾肥。

适宜种植范围

江西、广东、福建等南酸枣适宜栽培区。

12. ‘齐云山16号’南酸枣

树种：南酸枣 学名：*Choerospondias axillaris* ‘Qiyunshan 16’

类别：品种 通过类别：审定

编号：国S-SV-CA-012-2023

申请人：江西齐云山食品有限公司、中国林业科学研究院林业研究所

选育人：林富荣、陈鼎泸、凌华山、古和群、刘继延、郑勇奇、陈后荣、何利人、
韦春花、刘金萍、余孟杨、吴善群、冯运周、朱德宝、何庆荣、范佳群

品种特性

树皮灰褐色，浅纵裂。果实大小均匀，圆形，果熟呈金黄色，果肉颜色白色或略带淡黄色，平均单果重32.9 g，果肉含量 51.9%，蛋白质含量0.91 g/100 g，总氨基酸含量2.56 g/100 g，Vc含量0.27 g/100 g，单宁含量1.28 g/100 g。江西省崇义县始熟期8月下旬，盛果期亩产1100 kg~1300 kg。

主要用途

鲜食、食品加工。

栽培技术要点

宜选择海拔300 m~200 m山脚、山谷，土层肥厚或较肥厚的红壤、黄红壤宜林地建园。行距7 m~8 m，株距6 m~7 m，配置雄株授粉树3 株/hm²~5 株/hm²。定植后在离地约1 m处留3~4 个主枝，主枝萌发后在80 cm处短截，每个主枝再留3~4 个侧枝，1年内需松土、除草、施肥。成年树可于每年2至3月萌芽期在树冠外两侧挖宽20 cm、深50 cm的沟，施有机肥5 kg/株~10 kg/株；4 月下旬至5 月下旬开花期，株施有机肥10 kg/株~15 kg/株、石灰 1kg/株；6至7月果实膨大期腐熟的绿肥与饼肥10 kg/株，并辅以少量磷钾肥。

适宜种植范围

江西、广东、福建等南酸枣适宜栽培区。

13. ‘皖叶3号’桑

树种：桑树 学名：*Morus alba* ‘Wanye 3’

类别：品种 通过类别：审定

编号：国S-SV-MA-013-2023

申请人：安徽省农业科学院蚕桑研究所

选育人：李瑞雪、汪泰初、李 兴、苏雪强、周 荣、毕会涛、许萃敏、耿 兵、高新文、
胡 钢、郭 辉、刘国峰、刘 军、钱淑昌、田善富、陈怀玉

品种特性

树形直立，枝条粗长。叶心脏形，深绿色，叶长26 cm，叶宽18 cm，叶面光滑。安徽省合肥市发芽期 4月4~8日，开叶期4月10~18日，成熟期4月23日~5月4日，属中生中熟

品种。年产叶量37805 kg/hm²，比对照‘湖桑32号’增产20.29%，100 kg春桑产茧量5.89 kg，比‘湖桑32号’提高9.03%。山东海阳、安徽省合肥市等试验区未见桑疫病感染，黄化型萎缩病发病率为7.50%，抗病力是‘湖桑32号’的3倍。

主要用途

饲育蚕。

栽培技术要点

平原和低丘缓坡种植，行株距1.5 m×0.5 m，宽行密植；或按宽窄行栽植，宽行2.3 m~2.5 m，窄行0.5 m~0.6 m，株距0.45 m~0.5 m。树型采用低干养成，一般3年可养成丰产桑园，每亩枝条 0.95~1万条左右。

适宜种植范围

山东、安徽等桑树适宜栽培区。

14. ‘皖叶4号’ 桑

树种：桑树

学名：*Morus alba* ‘Wanye 4’

类别：品种

通过类别：审定

编号：国S-SV-MA-014-2023

申请人：安徽省农业科学院蚕桑研究所

选育人：汪泰初、李瑞雪、李 兴、苏雪强、周 荣、毕会涛、许萃敏、耿 兵、高新文
胡 钢、郭 辉、刘国峰、刘 军、钱淑昌、田善富、陈怀玉

品种特性

树形稍开展，枝条粗长稍曲。叶型平整开展，深绿色，心脏形叶长25.5 cm，叶幅19 cm，叶厚，叶面微糙。安徽省合肥市发芽期4月3~8日，开叶期4月8~16日，成熟期4月22日~5月4日，属中生中熟品种。产叶量37734 kg/hm²，比对照品种‘湖桑32号’增产20.07%，100 kg春桑产茧量 5.87 kg，比‘湖桑 32 号’提高 8.60%。

主要用途

饲育蚕。

栽培技术要点

平原和低丘缓坡种植，行株距1.5 m×0.5 m，宽行密植；或按宽窄行栽植，宽行2.3 m~2.5 m，窄行0.5 m~0.6 m，株距0.45 m~0.5 m。树型采用低干养成，一般 3 年可养成丰产桑园，每亩枝条 0.95~1万条左右。多施有机肥以充分发挥桑品种的丰产性能。春季多雨高湿时，要注意开沟排水。

适宜种植范围

山东、安徽等桑树适宜栽培区。

15. ‘莱星’ 油橄榄

树种：油橄榄

学名：*Olea europaea* ‘Leccino’

类别：引种驯化品种

通过类别：审定

编号：国S-ETS-OE-015-2023

申请人：甘肃省林业科学研究院、陇南市武都区油橄榄产业开发办公室、湖北省林业科学研究院、重庆市林业科学研究院

选育人：姜成英、赵海云、朱恒星、黄发新、吴文俊、李娜、金高明、龙伟、张荣、戚建莉、闫仲平、姚玉芳、黄飞逸、姜德志、全建州、戴前莉、孙文勇、张怀忠

品种特性

1979年从意大利引进。树体生长健壮，树冠开张。果实中等，平均单果重3.14g，卵圆形，不对称。果核中等，平均核重0.57 g。栽后第5年进入始果期，8~9年进入盛果期。在甘肃省陇南市盛果期平均亩产961.1 kg，平均含油率17.32%，分别较对照‘九峰6号’油橄榄提高39.2%、5.5%。脂肪酸主要组成为油酸含量68.3%~75.6%，亚油酸含量5.0%~11.0%，亚麻酸含量0.6%~1.0%，棕榈酸含量13.5%~14.3%，棕榈一烯酸含量1.4%~2.5%，硬脂酸含量1.5%~2.4%，花生酸含量0.3%。孔雀斑病发病率较对照‘九峰6号’油橄榄降低11.1%。

主要用途

油料树种，果实用于榨取橄榄油。

栽培技术要点

选择光照充足、土层厚度≥80cm、pH值6.5~8.5、质地疏松、通透性好的壤土。春季、秋季栽植，栽植密度4 m×5 m~5 m×6 m，种植时每穴施有机肥20 kg~50 kg；降雨较多、土壤较粘重或地下水位较高地区可起垄栽植，垄高30~35cm，垄宽1m左右。选择2年生二级以上扦插苗或嫁接苗。定植后每年秋冬扩穴一次，深度30 cm~40 cm，沟宽30 cm~40cm。树形以开心形为最佳，注意防治病虫害。配置授粉品种为‘配多灵’‘鄂植8号’‘城固32’‘科拉蒂’油橄榄等，比例4~5:1。

适宜种植范围

甘肃、重庆、湖北等油橄榄适宜栽培区。

16. ‘燕红’板栗

树种：板栗

学名：*Castanea mollissima* ‘Yanhong’

类别：品种

通过类别：审定

编号：国S-SV-CM-016-2023

申请人：北京市农林科学院

选育人：兰彦平、程丽莉、胡广隆、程运河、张京政、王东晨、刘建玲、孙静双、

李萌、兰卫宗

品种特性

树形圆头形，树冠紧凑。总苞圆形，平均含坚果2.4个。坚果整齐，红褐色，底座中等，平均单粒重8.9 g。果肉含水量51.8%，总糖含量20.25%，淀粉含量36.8%，脂肪含量1.1%，蛋白质含量3.71%。坚果9月中下旬成熟，耐贮运。北京市怀柔区盛果期平均亩产量170 kg，较对照‘黑山寨7号’板栗提高了41 kg。

主要用途

炒食或加工。

栽培技术要点

沟谷、山前平地及河滩地种植，株行距以3 m×4 m为宜。坚果采收后施入基肥，根据立地条件，每亩施500 kg~1000 kg基肥、加施少量富钾复合肥。4月上中旬萌芽期和6月中下旬胚乳形成期追肥。萌芽期和8月中下旬果实膨大期灌水。树形宜选用多主枝自然开心形，主枝3~4个，交错排列，下密上稀。每平方米树冠投影面积留结果母枝8~12个。冬剪时回缩修剪。主要防治红蜘蛛、桃蛀螟及胴枯病。

适宜种植范围

北京、河北等板栗适宜栽培区。

17. ‘燕山硕丰’板栗

树种：板栗 学名：*Castanea mollissima* ‘Yanshanshuofeng’
类别：品种 通过类别：审定
编号：国S-SV-CM-017-2023
申请人：河北省农林科学院昌黎果树研究所
选育人：王广鹏、张树航、李颖、郭燕、张馨方、兰彦平、段鹏慧

品种特性

树体高大，生长势强，树姿半开张。刺苞椭圆形，每苞均含坚果2.4粒，出实率37.5%。坚果椭圆形，褐色，明亮，茸毛少，平均单粒重8.24 g；果实含水量48.2%，可溶性糖含量20.1%，淀粉含量49.8%，蛋白质含量4.85%，脂肪含量1.22%。嫁接第2年结果株率90%以上，嫁接3年即进入盛果期。北京市怀柔区果实成熟期9月14日前后，定植6年亩产量294.2 kg，较对照‘大板红’板栗提高17%。

主要用途

炒食或加工。

栽培技术要点

适宜pH5.6~7.0的片麻岩山地及河滩沙地种植，盛果期定植密度4 m×4 m~4 m×6 m；嫁接当年使用摘心去叶方法促发新梢，以开张角度、增加枝量；盛果期大树冬剪采用轮替更新修剪技术为佳，粗壮枝基部以上3 cm短截培育预备枝，每平方米树冠投影面积留结果母枝8~9条。

适宜种植范围

北京、山西、河北等板栗适宜栽培区。

18. ‘翠香’猕猴桃

树种：美味猕猴桃 学名：*Actinidia chinensis* ‘Cuixiang’
类别：品种 通过类别：审定
编号：国S-SV-AC-018-2023
申请人：周至县农业科学技术试验站、陕西省农村科技开发中心
选育人：黄经营、雷玉山、张晓斌、徐明、刘懿、金平涛、雷靖、郝蕊平、李勇超

品种特性

早熟品种，3月中旬萌芽，4月下旬开花，9月上旬果实成熟，生育期130天左右。果实倒卵形，果型整齐，平均单果重91.2 g，果皮黄褐色，果肉翠绿，具有芳香味，可溶性固形物含量16%~19%，干物质含量18%~20%，总糖含量10.5%，Vc含量为85 mg/100 g，总酸含量1.3%。陕西省周至县盛果期平均亩产1568 kg。

主要用途

鲜食。

栽培技术要点

选择平坦或坡度 $<30^{\circ}$ 的半阳坡地，土层厚度 ≥ 50 cm，有机质1.2%以上，疏松透气、排水良好的轻壤土、中壤土或砂壤土，土壤pH6.5~7.52。以一杆两蔓多侧枝为主，冬季修剪。每年每亩施用有机肥不低于2000 kg。禁止大水漫灌。芽体长至5 cm时抹芽，可分两次，芽间距 15 ± 5 cm。在耳蕾与主蕾分离时疏蕾，单枝留蕾平均3~4个。注意防治溃疡病、小薪甲、椿象等病虫害。以‘秦雄401’美味猕猴桃作为授粉树，配置比例6~8:1。

适宜种植范围

陕西、四川等美味猕猴桃适宜栽培区。

19. ‘瑞玉’猕猴桃

树种：美味猕猴桃

学名：*Actinidia chinensis* ‘Ruiyu’

类别：品种

通过类别：审定

编号：国S-SV-AC-019-2023

申请人：陕西省农村科技开发中心、陕西佰瑞猕猴桃研究院有限公司、周至县农业科学技术试验站

选育人：雷玉山、徐明、黄经营、李永武、王西锐、雷靖、张晓斌、王亚国、韩小钊、王珂、井赵斌、刘运松、李亮

品种特性

树势强健，陕西省秦岭北麓3月中旬萌芽，4月下旬开花，果实9月中下旬成熟，生育期140天。果实圆柱形兼扁圆形，果型整齐，果皮褐色，被黄褐色硬毛，果肉绿色，细腻多汁。平均单果重92.6 g；可溶性固形物含量19.1~21.0%；干物质含量20%~24%，可滴定酸含量0.8%，Vc含量85.9 mg/100 g，可溶性糖含量12~13%。陕西省周至县盛果期平均亩产量1650 kg。常温下后熟期25~30天，低温贮藏期5个月。

主要用途

鲜食。

栽培技术要点

以一干两蔓多侧枝或一干一蔓多侧枝树形为主。采用“少枝多芽少果”的修剪及果实管理方法。每年每亩施用有机肥不低于2000 kg。使用悬挂喷带及水肥一体化系统根据墒情进行合理灌水，禁止大水漫灌。在花后20天相邻两个果实未邻接时喷1次菊酯类药剂防治小薪甲，间隔7~10天连续再喷1次。选择‘瑞雄607’作为授粉树，配置比例5-6:1。

适宜种植范围

四川、陕西等猕猴桃适宜栽培区。

认定通过品种

1. ‘东白31112’白桦

树种：白桦

学名：*Betula platyphylla* × *B. pendula* ‘Dongbai 31112’

类别：家系

通过类别：认定5年（2023年12月26日-2028年12月25日）

编号：国R-SF-BP-001-2023

申请人：东北林业大学

选育人：李慧玉、刘桂丰、姜静、邢凯鑫、彭儒胜、王磊、李天芳、胡万金、刘刚、王有菊、刘克俭、陈立冬、曲杨、李志新、年洪伟

品种特性

三倍体，树干通直。在辽宁省朝阳市10年生单株材积0.0472 m³，比21个家系群体均值提高39.23%；纤维长781.66 μm，比21个家系群体均值提高6.45%；综纤维素含量52.1%，分别比21个家系群体均值提高0.40%；木材密度0.2344 g/cm³，比21个家系群体均值提高1.91%。

主要用途

用材林树种。

栽培技术要点

播种前种子用0.5%的高锰酸钾处理30分钟，将种子与河沙按1:1体积比混匀，置25℃~30℃催芽。采用塑料大棚营养杯育苗，将催芽处理的白桦种子播种到营养杯基质表面，不能覆土。选择坡度30°以下阳缓坡、中坡位、土壤厚度30 cm以上的立地造林。初植密度2500株/hm²。春季明穴造林为主，挖穴直径30 cm~60 cm，深度30 cm~50 cm为宜。

适宜种植范围

黑龙江、辽宁等白桦适宜栽培区。

2. ‘中山杉502’落羽杉

树种：落羽杉

学名：*Taxodium mucronatum* × *T. distichum*
‘Zhongshanshan 502’

类别：品种

通过类别：认定3年（2023年12月26日-2026年12月25日）

编号：国R-SV-TM-002-2023

申请人：江苏省中国科学院植物研究所、湖北省林业科学研究院荆州分院、凤台县森林苗圃

选育人：於朝广、殷云龙、徐建华、徐和宝、华建峰、王紫阳、宣磊、芦治国、杨颖施、钦、王芝权、逯岩、丁次平、张凌云、江津凡、桂其兵、赵锋、赵瑞

品种特性

半常绿乔木，主干通直，叶色深绿，冬季转为黄色，针叶排列紧密，以约50°角斜伸。pH≤8.5，含盐量≤3.5%能够正常生长。可长年生长于深度为1/5树高的水体中。年均胸径生长量1.8 cm~2 cm、树高生长量80 cm~100 cm。

主要用途

防护林、生态林树种。

栽培技术要点

苗木移栽时应随起随栽，对过长的根系应缩剪，并浇足定根水。绿化造林时，注意适度深栽，如用2 m以上大苗造林时，应适当疏枝，以提高栽植成活率。在盐碱地上造林绿化应尽量采用容器苗，浅栽为主，适当培土，不宜大穴栽植，以防盐害。

适宜种植范围

江苏、湖北、安徽等落羽杉适宜栽培区。

3. ‘京白1号’杨

树种：杨树
类别：无性系
编号：国R-SC-PJ-003-2023
申请人：北京林业大学
选育人：安新民、郭斌、李善文、陈仲、狄贵明、高凯、杨晓宇、叶梅霞、杨雄、郭新香、薛胤轩、李影、齐婉芯、黄赛、郭婷

学名：*Populus* ‘Jingbai 1’

通过类别：认定5年（2023年12月26日-2028年12月25日）

品种特性

毛白杨雌株，树干通直。在山西晋中4年生平均树高9.7 m，平均胸径9.8 cm，比对照‘鲁毛50’杨分别高21%、19.5%；冠幅比对照‘鲁毛50’杨小13.8%，分枝角度小18.8%，平均单株材积高65.8%。木材基本密度为0.3542 g/cm³，纤维长度为0.90 mm，纤维长宽比37.37；纤维素含量为45.93%，综纤维素含量为79.76%。

主要用途

用材林树种。

栽培技术要点

采用无性繁殖方式进行繁殖，一般采用嫁接繁殖，选用‘群众’杨做砧木，常采用“接炮捻”劈接法和“一条鞭”芽接法。春季和秋末冬初均适合栽植，在苗木发芽前栽完。造林苗木规格一般选用二根一干苗或三根二干苗。栽植前要对苗木进行适当修剪，剪去全部侧枝，并剪去苗梢木质化差的部分，剪口下1 cm处留壮芽。树穴规格60 cm×60 cm×60 cm。造林常用株行距是3 m×3 m或4 m×4 m。

适宜种植范围

山西、山东等杨树适宜栽培区。

4. ‘西北3号’杨

树种：杨树
类别：无性系
编号：国R-SC-PA-004-2023
申请人：西北农林科技大学
选育人：樊军锋、周永学、高建社、张锦梅、殷光晶、马文斌、王朋、刘宝尧、时建华、谢俊锋、周飞梅、王磊

学名：*Populus alba* × *P.tomentosa* ‘Xibei 3’

通过类别：认定5年（2023年12月26日-2028年12月25日）

品种特性

雌株，树干通直，分支角度中等，叶具3~5片掌状裂。10年生平均树高21.73 m，平均材积为0.3681 m³，比对照‘毛白杨30号’‘秦白杨1号’‘西北杨2号’平均材积分别高150.31%、32.84%、17.32%；黑斑病病害指数为15.56%，较‘毛白杨30号’低12%。

主要用途

用材林树种。

栽培技术要点

苗木繁殖采用扦插繁殖。扦插密度每亩4000株~5000株。造林采用植苗造林，使用1~3年生苗木。栽植一年生苗回剪苗梢40 cm~60 cm，剪口下留饱满芽，可提高成活率，促进当年主梢生长。适当深栽，栽植深度40 cm~60 cm，株行距3 m×3 m。

适宜种植范围

陕西、青海等杨树适宜栽培区。

5. ‘钟山24’油橄榄

树种：油橄榄

学名：*Olea europaea* ‘Zhongshan 24’

类别：品种

通过类别：认定3年（2023年12月26日-2026年12月25日）

编号：国R-SV-OE-005-2023

申请人：甘肃省林业科学研究院、陇南市武都区油橄榄产业开发办公室、江苏省植物研究所、湖北省林业科学研究院、云南省林业和草原科学院

选育人：姜成英、吴文俊、李勇杰、姜德志、赵海云、贺善安、宁德鲁、闫仲平、李娜、黄发新、龙伟、戚建莉、全建州、张荣、金高明、姚玉芳、李佳泽、孙文勇

品种特性

树冠整齐紧密。果实长椭圆形，平均单果重6.13g，果肉厚，平均果肉率88.68%，果形整齐，肉核易分离。鲜果含油率14.57%，油酸含量60.2%~65.8%，亚油酸含量1.5%~3.0%，亚麻酸含量0.6%~1.5%，棕榈酸含量16.5%~18.3%，棕榈一烯酸含量2.4%~4.6%，硬脂酸含量1.5%~3.0%。扦插苗栽后第5年始果，8~9年进入盛果期。甘肃省陇南市盛果期亩产鲜果868 kg，比对照‘城固32’油橄榄提高34.25%。

主要用途

果实用于榨取橄榄油，也可用于腌制罐头。

栽培技术要点

选择光照充足、土层厚度 ≥ 80 cm，pH值6.5~8.5、质地疏松、通透性好的壤土。春季、秋季栽植，密度4 m \times 5 m~5 m \times 6 m，种植时每穴施有机肥20 kg~50 kg；降雨较多、土壤较粘重或地下水位较高地区可起垄栽植，垄高30 cm~35 cm，垄宽1 m左右。选择2年生二级以上扦插苗或嫁接苗。定植后每年秋冬进行一次扩穴，深度30 cm~40 cm，沟宽30 cm~40 cm。树形以开心形为最佳，注意防治病虫害。例配置授粉株‘克里’或‘九峰6号’油橄榄比例4~5:1。

适宜种植范围

甘肃、湖北、云南等油橄榄适宜栽培区。

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

1. Lanxi CSOS (clonal seed orchard seeds) of *Schima superba*

Species: *Schima superba*

Scientific name: *Schima superba* ‘Lanxi CSOS’

Type of material: Seeds of clonal seed orchard

Category of certification: Certified

Registration No.: Guo S-CSO(1)-SS-001-2023

Applicants: Institute of Subtropical Forestry, Chinese Academy of Forestry, Lanxi nursery of Zhejiang.

Breeders: Zhou Zhichun, Zhang Rui, Zhang Zhen, Yao Jin, Teng Guoxin, Fan Jingen, Jin Guoqing

Characteristics:

The trunk is straight and rounded. The average height, DBH and single tree timber volume of 4-year-old trees from Kaihua, Jiande, Longquan in Zhejiang, Fenyi in Jiangxi, and Zhangzhou in Fujian Province were 3.02 m, 3.01 cm and 0.0015 m³, respectively, which were 14.96%, 14.53% and 51.19% higher than those local natural forests of *S. superba*. The average height, DBH and single tree timber volume of 7-year-old trees in Xinfeng Jiangxi province were 4.46 m, 4.68 cm and 0.0110 m³, respectively, which were 23.20%, 27.17% and 103.70% higher than those planted with local excellent natural forests seeds, of *S. superba*.

Main use:

Used as shelter forest and ecological restoration tree.

Silvicultural techniques:

It's suitable to planting in early spring. The land's site index should be over 14 and prepared in block or strip, with the hole 40 cm×40 cm×30 cm, the planting density 2 m-2.5 m × 2.5 m-3 m, and the row spacing was 2.5 m-3 m. Pure or mixed planting with Chinese fir, Masson pine and other tree species were all recommended. Three or four years after afforestation, the forest should be nurtured 2-3 times by expanding holes or full hoeing. Then thinning the forest after stand crown closure.

Suitable areas for planting:

Growth suitability areas for *Schima superba* in Zhejiang, Fujian and Jiangxi province.

2. Heifang 3

Species: Poplar

Scientific name: *Populus* ‘Heifang 3’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-PH-002-2023

Applicants: Qiqihar Branch of Heilongjiang Academy of Forestry

Breeders: Zhang Qiang, Bi Yu, Zhang Jinwang, Zhou Xuefeng, Wang Houbin, Yang Chunliu, Wang Jing, Fu Zhixiang, A Runa, Zhao Xiyang, Wang Fusen, Zhou Lijun, Xing Zhenghua, Liu Xiaomeng

Characteristics:

The bark of the male plant is smooth and emerald green. In Tongyu County, Jilin Province (saline-alkali chernozem soil), the average height, DBH and single tree timber volume of 30-year-old trees were 17.90 m, 28.10 cm and 0.5182 m³, respectively, and single tree timber volume was 63.57% higher than that of the control *P. nigra* ‘Baicheng’. The absolute dry density of 10-year-old wood is 0.37g /cm³, the fiber length is 0.973mm, and the fiber

length-to-width ratio is 50. No frost damage was observed at -37.2 °C in Qiqihar, Heilongjiang Province. Salt tolerance $\leq 0.2\%$.

Main use:

Used as shelter forest tree and timber tree.

Silvicultural techniques:

It is suitable for planting in sandy loam, black soil and meadow soil in mild, semi-humid and semi-arid climate. Poplar rust is susceptible to infection in seedlings in dry years. It can be prevented and treated once every 7-15 days after dilution of 25% triadimefon by 800 times. Afforestation use two-root one-stem or two-root two-stem seedlings. Afforestation by planting seedlings, mechanical ditching and drilling holes. Row spacing of 2 m×3 m, 3 m×3 m or 4 m×3 m. After afforestation, strengthen pruning to reduce the curvature of the trunk caused by rapid growth, and can be harvested in 8-12 years.

Suitable areas for planting:

Areas suitable for growing *Populus* in Heilongjiang, Jilin provinces and Inner Mongolia.

3. Jingfeng 1

Species: Poplar

Scientific name: *Populus* ‘Jingfeng 1’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SC-PJ-003-2023

Applicants: Beijing Forestry University

Breeders: Zhang Pingdong, Kang Xiangyang, Li Yun, Ma Jing, Zhang Feng, Li Jinzhong, Wang Zhenlong, Wang Hongfeng, Lin Han

Characteristics:

Female triploid, straight trunk, gray-green bark, smooth; Broad and long ovoid tree shape. In Hebei, Shanxi and Shandong regional test experiments, the average timber volume of nine-year old trees was 21.70m³/mu, which was 28.2% and 34.8% higher than that of the control *Populus* ‘Beilin 5’ and *Populus* ‘Sanmaoyang 11’, respectively. The basic density of wood was 0.37g/cm³, which was 5.2% and 10.6% higher than that of the control *Populus* ‘Beilin 5’ and *Populus* ‘Sanmaoyang 11’, respectively.

Main use:

It can be used as timber tree.

Silvicultural techniques:

Afforestation is mainly conducted in spring with a spacing 500-1500 plants per hm². The place with flat terrain and deep soil layer is needed. When afforestation is done with one-year-old seedlings, heavy pruning or cutting the trunk is required after seedlings are prepared. Timely watering is also required when afforestation is done by drilling holes. It is time to apply fertilizer when afforestation has been conducted for three years.

Suitable areas for planting:

Hebei, Shanxi and Shandong provinces are the suitable regions for *Populus* ‘Jingfeng 1’.

4. Zhongxiong 4

Species: Poplar

Scientific name: *Populus deltoides* × *P. suaveolens* ‘Zhongxiong 4’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-PD-004-2023

Applicants: Research institute of Forestry, Chinese Academy of Forestry

Breeders: Ding Changjun, Su Xiaohua, Wang Fusen, Li Jing, Huang Qinjun, Zhang Weixi

Characteristics:

Male, straight trunk, pale yellowish-green bark. In Fuyu County, Heilongjiang Province, the average height, DBH and single tree timber volume of 13-year-old trees were 17.11 m, 20.53 cm and 0.2707 m³, respectively, which were 8.02%, 38.99% and 112.81% higher than that of the control *Populus × xiaohei*. Absolute dry density of wood 0.39 g/cm³. The fiber length of 11-year-old wood was 1351μm, the fiber length-to-width ratio was 64.2, and the cavity wall ratio was 0.31. No frost damage was observed at the lowest annual temperature of -35.2 °C in Fuyu County, Qiqihar City, Heilongjiang Province. Salt tolerance ≤0.2%.

Main use:

It can be used as shelter forest tree and timber tree.

Silvicultural techniques:

Afforestation with two-root one-stem and two-root two-stem seedlings. The initial planting density was 4 m×4 m or 3 m×4 m for cultivation of medium and large diameter timber such as plywood and 2 m×3 m, 2 m×4 m or 3 m×3 m for cultivation of small diameter timber. In extreme weather, the seedlings are prone to sunburn over winter, so it is necessary to protect them by water control and brushing white lime.

Suitable areas for planting:

Areas suitable for growing *Populus* in Heilongjiang, Liaoning provinces and Inner Mongolia.

5. Jinxiangyu

Species: *Phyllostachys aureosulcata*

Scientific name: *Phyllostachys aureosulcata* ‘Jinxiangyu’

Type of material: Clone

Category of certification: Certified

Registration No.: Guo S-SC-PA-005-2023

Applicants: Nanjing Forestry University

Breeders: Lin Shuyan, Yuan Jinling, Ding Yulong, Wang Fusheng, Liu Guohua, Zhao Qiseng, Yu Zaiding, Yu Yingchun, Wang Qin, Zhang Yunshan, Zhang Biwu, Zhao Dandan, Wang Yun

Characteristics:

Small and medium-sized scattered bamboo, culm height 5 m-6 m, diameter 3 cm-5 cm, the middle internode length 15 cm-20 cm. The culm is bright yellow, then gradually golden yellow, the groove on one side of each branch is green, and each branch has two branches. Leaves green, a few leaves have yellow-white color strips. The leaf length is 7 cm-15 cm, and the leaf width is 1 cm-1.5 cm.

Main use:

It can be used as an ornamental variety.

Silvicultural techniques:

2 to 3 years mother bamboo is selected for afforestation and landscaping. When digging the mother bamboo, the soil balls of coming parts of rhizomes 10 cm and going seed rhizomes 15 cm, with a diameter of about 30 cm to 35 cm, should be kept. When taking bamboo, generally do not remove the tip, but should remove 2/3 of the bamboo leaves. Generally, 1 month before the bamboo shoots are unearthed, the average temperature is above 15°C and the bamboo can be moved for seedling cultivation. According to the planting density of 1 m × 1.2 m, ditching and digging holes, digging holes specifications of 40 cm × 40 cm × 60 cm, waterlogged, long-term impregnated low-lying land and a place where is a draught should not be planted.

Suitable areas for planting:

Areas suitable for growing *Phyllostachys aureosulcata* in Jiangsu, Zhejiang and Anhui provinces.

6. Qingzhen 1

Species: Apple

Scientific name: *Malus* 'Qingzhen 1'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MQ-006-2023

Applicants: Qingdao Institute of Agricultural Sciences

Breeders: Sha Guangli, Ge Hongjuan, Ma Rongqun, Sun Jilu, Yin Tao, Huang Yue, Zhang Ruifen, Wang Jixun, Yan Peng, Mei Chuang, Zhang Dongya, Chen Shuying, Feng Beibei, Qin Deming, Shi You, Guo Xiuling, Li Guo, Wang Shaohua

Characteristics:

Column tree shape, moderate growth vigor, upright tree posture. Strong trunk, no need to set up a stent. The rate of apomixis is 97.0%-98.1%. When it was used as a rootstock to graft apple varieties 'Gala ', 'Yanfu 3' and 'Yanfu 6', the survival rate was about 95%, with good affinity. Scion and rootstock had coordinated growth rate and consistent thickness. In Guangrao County, Dongying City, Shandong Province, the yield of 'Fushi' grafted can reach 3928 kg per mu during the peak period., which is 1.18 times of the yield of control variety 'M9T337' as the interstock, and the number of branches increased by 16% compared with the control variety.

Main use:

It can be used as a root-stock variety.

Silvicultural techniques:

It is suitable for grafting short branch varieties. The grafting height of annual seedling is 20 cm-25 cm, and the grafting height of biennial seedling is 50 cm-70 cm. In general soil conditions, the plant and row spacing of 2.5m × 4m is appropriate. For mountainous or barren land without irrigation conditions, the plant and row spacing of 2 m×4 m is appropriate. Water and fertilizer supply should be stopped after August, and if there is a lot of rain from July to September, hormone drugs should be used to control growth or root cutting treatment.

Suitable areas for planting:

Areas suitable for growing *Malus* in Shandong, Ningxia and Xinjiang provinces.

7. Qingzhen 2

Species: Apple

Scientific name: *Malus* 'Qingzhen 2'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MQ-007-2023

Applicants: Qingdao Institute of Agricultural Sciences

Breeders: Sha Guangli, Ge Hongjuan, Ma Rongqun, Huang Yue, Sun Jilu, Zhang Ruifen, Mei Chuang, Yan Peng, Wang Jixun, Tang Jin, Song Wei, Diao Yongqiang, Zhang Zhenjun, Tao Jun, Ma Youfu, Hu Haifang, He Gaoming, Sun Qian

Characteristics:

Round tree crown, tree posture open, medium tree vigor, tree shape branching form. It has strong trunk and can be cultivated without stent. The rate of apomixis is 88.9%-95.0%. When it was used as a rootstock to graft apple varieties 'Gala ', 'Yanfu 3' and 'Yanfu 6', the survival rate was about 95%, with good affinity. Scion and rootstock had coordinated growth rate and consistent thickness. In Guangrao County, Dongying City, Shandong Province, the

yield of 'Fushi' grafted can reach 3638 kg per mu during the peak period, which increased 9% compared with the yield of control variety 'M9T337' as the interstock.

Main use:

It can be used as a root-stock variety.

Silvicultural techniques:

It is suitable for grafting short branch varieties. The grafting height is 60 cm-70 cm. In general soil conditions, In general soil conditions, the plant and row spacing of 2 m × 4 m is appropriate. For mountainous or barren land without irrigation conditions, the plant and row spacing of 1.5 m×4 m is appropriate. Water and fertilizer supply should be stopped after August, and if there is a lot of rain from July to September, hormone drugs should be used to control growth or root cutting treatment.

Suitable areas for planting:

Areas suitable for growing *Malus* in Shandong, Ningxia and Xinjiang provinces.

8.Lubei

Species: *Ziziphus Jujuba*

Scientific name: *Ziziphus Jujuba* 'Lubei'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-ZJ-008-2023

Applicants: Shandong Institute of Pomology

Breeders: Zhang Qiong, Wang Zhongtang, Guo Yuxin, Zhou Guangfang, Tang Haixia, Wang Shoule, Li Pan, Qi Xuelong, Zhu Yi, Wang Shizhen

Characteristics:

Winter jujube varieties. Small tree, tree posture open. The fruit is nearly round, neat in size, flat fruit surface, thin skin and crisp meat. The average single fruit weight was 14.0 g, and the maximum single fruit weight was 23.2 g. In Kashgar, Xinjiang, the per-mu yield reached 865 kg during the peak period, and the edible rate reached 96.9%. The total sugar content was 26.67 g/100 g, total acid content 0.23 g/kg, Vc content 0.22 g/100 g, and soluble solid content 30.2%. Late ripening, ripe for harvesting in early October. In controlled atmosphere cold store, it can be stored for more than two months.

Main use:

It can be used as freshly served fruit.

Silvicultural techniques:

Planting before spring germination, or planting after winter jujube seedlings have fallen leaves and before the soil freezes. It is necessary to dig the fertile hole and the fertile ditch, apply the bottom fertilizer, backfill the topsoil, and then dig the planting hole. Generally, the land with rich soil can be planted 111 or 84 plants per mu, and the land with poor saline-alkali land can be properly densely planted to improve the utilization rate of land. Girdling during blooming stage to increase fruit setting rate.

Suitable areas for planting:

Areas suitable for growing *Ziziphus Jujuba* in Shandong, Shanxi, Shaanxi and Xinjiang provinces.

9. 'Luli'

Species: *Malus domestica*

Scientific name: *Malus domestica* 'Luli'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MD-009-2023

Applicants: Shandong Institute of Pomology

Breeders: Wang Haibo, He Ping, Wang Sen, He Xiaowen, Chang Yuansheng, Zheng Wenyan, Li Linguang, Li Yuan, Wang Xuguang

Characteristics:

The tree had an open branch form with strong The fruit shape index was 0.90, and the fruit development period lasted for 110 days, which was 10 days earlier than that of 'Royal Gala' apple. Without bagging, the fruit color was full thick red, and the color was more than 90%. The fruit average weight of the fruit was 193.6 g, with the soluble solids content of 14.3%, Vc content of 2.5 mg / 100 g, and total acid content of 2.14 g/kg.

Main use:

It can be used for fresh eating.

Silvicultural techniques:

The dwarfing cultivation mode was appropriate for constructing the orchard with a spindle tree shape. It was recommended to use the strong virus-free nursery-grown plants. And the density of 83 to 190 plants per 666.7 m² was suitable. Normally, the variety of 'Fuji' series and 'Delicious' series was used as pollen donor with a configuration ratio of 4-5:1. Fertilization was applied before flowering and at during the fruit expansion stage. Irrigation was performed from the budding to flowering stage. Timely irrigation during 40 days after flowering was key. The freezing water was necessary in the middle of November, the frozen water was filled in time. The leaves around the fruit were needed to be removed about 15 days before ripening to ensure full coloration.

Suitable areas for planting:

Shandong, Henan, Hebei, Xinjiang and other regions suitable for apple cultivation areas.

10、'Qiuxiang'

Species: *Juglans regia*

Scientific name: *Juglans regia* 'Qiuxiang'

Type of material: variety

Category of certification: Certified

Registration No.: Guo S-SV-JR-010-2023

Applicants: Shandong Institute of Pomology; Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Chen Xin, Zhang Junpei, Zhang Meiyong, Wang Guifang, Tian Xin, Niu Hongyun, Wang Hongxia, Meng Xiaoye, Zhao Yong, Xu Ying, Wu Jing, Lei Ling, Xu Haifeng, Xiang Kun, Zhou Ye, Wang Xiaofang, Gong Xiaodi, Li Guotian

Characteristics:

The trees were strong and open. In the middle of April in Tai'an City, Shandong Province, the female flower peak, about 15 days later than 'Xiangling' walnut, can effectively avoid the harm of early spring and late frost. Ripe in September. The nuts were round, with smooth shell surface, an average weight of 12.8 g per fruit, shell thickness of 0.9 mm-1.1 mm, easy to take the whole kernel, the yield rate was 58.6%, the kernel fat content was 65.9%, and the taste was not astringent. In Shandong Tai'an provinces of dried fruit area yield can be up to 209.7 kg, "Xiangling" walnut than control increased by 23.2 kg.

Main use:

It can be used for fresh or cooked eating.

Silvicultural techniques:

In the plain area, the planting density was 4 m×5 m or 4 m×6 m, and the fixed stem height was 1.0 m-1.2 m. In the hilly slope area, the planting density was 4 m×4 m or 4 m×5 m, and the fixed stem height was 0.8 m-1.0 m. 'Zhonglin 3', 'Zhonglin 6' walnuts and other varieties were used as pollination trees, and the allocation ratio was 8-

10:1. The suitable tree shapes were dispersive layer and main stem, and winter shear was the main type. Base fertilizer was applied in autumn, manure and compost were applied after harvest or before spring germination, and manure was applied during the growing season. Irrigation was applied before germination, fruit hard core stage and before freezing in winter. Enter the full fruit period, strengthen fertilizer and water management.

Suitable areas for planting:

Shandong, Shanxi, Hebei and other suitable cultivation areas of walnut.

11、‘Qiyunshan 7’

Species: *Choerospondias axillaris*

Scientific name: *Choerospondias axillaris* ‘Qiyunshan 7’

Type of material: variety

Category of certification: Certified

Registration No.: Guo S-SV-CA-011-2023

Applicants: Jiangxi Qiyun Shah FOODS Co.,lid.; Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Gu Hequn, Ling Huashan, Liu Jiyan, Lin Furong, Zheng Yongqi, Chen Hourong, He Liren, Chen Dinglu, Wei Chunhua, Liu Jinping, Yu Mengyang, Wu Shanqun, Feng Yunzhou, Zhu Debao, He Qingrong, Fan Jiaqun

Characteristics:

The bark was gray brown. The fruit was round in shape, mature golden yellow, the flesh color was white or slightly yellowish, the average weight of single fruit was 20.1 g, the pulp content was 55.4%, the protein content was 0.97 g/100 g, the total amino acid content was 2.81 g/100 g, the Vc content was 0.24 g/100 g, and the tannin content was 1.2 g/100 g. The beginning of ripening period in Chongyi, Jiangxi province was late September, the yield of 1000 kg-1300 kg per mu in the full fruit period.

Main use:

It can be used for fresh eating and food processing.

Silvicultural techniques:

The forest land with an altitude of 300 m-1200 m and a thick or relatively thick soil layer was suitable for red soil and yellow red soil. Row spacing was 7 m to 8 m, plant spacing was 6 m to 7 m, and male pollination trees were configured with 3 to 5 plants /hm². After engraftment in about 1 meter from the ground to keep 3-4 main branch, main branch at 80 cm short section after germination, each major branch stay for 3-4 lateral branch, 1 year domestic demand scarification, weeding, fertilizing. Ditches with a width of 20 cm and a depth of 50 cm were dug on both sides of the crown of adult trees at the germination stage from February to March each year, and 5 kg/ plant-10 kg/ plant organic fertilizer was applied. During the flowering period from late April to late May, organic fertilizer 10 kg/ plant-15 kg/ plant and lime 1 kg/ plant were applied. From June to July, the green manure and cake fertilizer were 10 kg/ plant, supplemented with a small amount of phosphorus and potassium fertilizer.

Suitable areas for planting:

Jiangxi, Guangdong, Fujian and other *Choerospondias axillaris* suitable cultivation area.

12、‘Qiyunshan 16’

Species: *Choerospondias axillaris*

Scientific name: *Choerospondias axillaris* ‘Qiyunshan 16’

Type of material: variety

Category of certification: Certified

Registration No.: Guo S-SV-CA-012-2023

Applicants: Jiangxi Qiyun Shah FOODS Co.,lid.; Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Lin Furong, Chen Dinglu, Ling Huashan, Gu Hequn, Liu Jiyan, Zheng Yongqi, Chen Hourong, He Liren, Wei Chunhua, Liu Jinping, Yu Mengyang, Wu Shanqun, Feng Yunzhou, Zhu Debao, He Qingrong, Fan Jiaqun

Characteristics:

The bark was grey brown, shallow longitudinal split. The average fruit weight was 32.9 g, the pulp was white or slightly yellowish, the pulp content was 51.9%, the protein content was 0.91 g/100 g, the total amino acid content was 2.56 g/100 g, and the Vc content was 0.27 g/100 g. The tannin content was 1.28 g/100 g. The beginning of ripening period in Chongyi, Jiangxi province was late August, the yield of 1100 kg-1300 kg per mu in the full fruit period.

Main use:

It can be used for fresh eating and food processing.

Silvicultural techniques:

The forest land with an altitude of 200 m-1300 m and a thick or relatively thick soil layer was suitable for red soil and yellow red soil. Row spacing was 7 m to 8 m, plant spacing was 6 m to 7 m, and male pollination trees were configured with 3 to 5 plants /hm². After engraftment in about 1 meter from the ground to keep 3-4 main branch, main branch at 80 cm short section after germination, each major branch stays for 3-4 lateral branch, 1-year domestic demand scarification, weeding, fertilizing. Ditches with a width of 20 cm and a depth of 50 cm were dug on both sides of the crown of adult trees at the germination stage from February to March each year, and 5 kg/ plant -10 kg/ plant organic fertilizer was applied. During the flowering period from late April to late May, organic fertilizer 10 kg/ plant-15 kg/ plant and lime 1 kg/ plant were applied. From June to July, the green manure and cake fertilizer were 10 kg/ plant, supplemented with a small amount of phosphorus and potassium fertilizer.

Suitable areas for planting:

Jiangxi, Guangdong, Fujian and other *Choerospondias axillaris* suitable cultivation area.

13. 'Wanye 3'

Species: *Morus alba*

Scientific name: *Morus alba* 'Wanye 3'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MA-013-2023

Applicants: Sericulture Research Institute, Anhui Academy of Agricultural Sciences

Breeders: Li Ruixue, Wang Taichu, Li Xing, Su Xueqiang, Zhou Rong, Bi Huitao, Xu Cuimin, Geng Bing, Gao Xinwen, Hu Gang, Guo Hui, Liu Guofeng, Liu Jun, Qian Shuchang, Tian Shanfu, Chen Huaiyu

Characteristics:

Upright shapes, thick and long branches. The leaves are 26 cm long and 18 cm wide with smooth surfaces and dark green heart-shaped. It is a medium-to-ripe variety. In Hefei, Anhui province, trees sprout in April 4 to 8, leaves opening in April 10 to 18, and the maturity in April 23 to May 4. The annual leaf yield was 37805 kg/hm², 20.29% higher than 'Husang 32', the cocoon yield was 5.89 kg/100 kg spring mulberry, 9.03% higher than 'Husang 32'. No mulberry blight infection in Haiyang, Shandong Province and Hefei, Anhui Province. The incidence rate of yellow atrophy was 7.50%, the disease resistance was 3-fold of 'Husang 32'.

Main use:

Rearing silkworms.

Silvicultural techniques:

Wide row close planting in plain and low hill gentle slope, with row spacing of 1.5 m × 0.5 m. Or wide and narrow row planting, with wide row of 2.3 m-2.5 m, narrow row of 0.5 m-0.6 m and plant distance of 0.45 m-0.5 m. Adopt

low dry cultivation tree shape, it can develop a high-yield mulberry garden generally in 3 years with the production of about 9500-10,000 branches per mu.

Suitable areas for planting:

Areas suitable for growing mulberry trees in Shandong, Anhui.

14. 'Wanye 4'

Species: *Morus alba*

Scientific name: *Morus alba* 'Wanye 4'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MA-014-2023

Applicants: Sericulture Research Institute, Anhui Academy of Agricultural Sciences

Breeders: Wang Taichu, Li Ruixue, Li Xing, Su Xueqiang, Zhou Rong, Bi Huitao, Xu Cuimin, Geng Bing, Gao Xinwen, Hu Gang, Guo Hui, Liu Guofeng, Liu Jun, Qian Shuchang, Tian Shanfu, Chen Huaiyu

Characteristics:

Slightly opened tree shape, the thick and long branches slightly curved. The leaves are flat and thick, and 25.5 cm long, 19 cm wide, with slightly rough surfaces and dark green heart-shaped. It is a medium-to-ripe variety. In Hefei, Anhui province, trees sprout in April 3 to 8, leaves opening in April 8 to 16, and the maturity in April 22 to May 4. The annual leaf yield was 37,734 kg/hm², 20.07% higher than 'Husang 32', the cocoon yield was 5.87 kg/100 kg spring mulberry, 8.60% higher than 'Husang 32'.

Main use:

Rearing silkworms.

Silvicultural techniques:

Wide row close planting in plain and low hill gentle slope, with row spacing of 1.5 m × 0.5 m. Or wide and narrow row planting, with wide row of 2.3 m-2.5 m, narrow row of 0.5 m-0.6 m and plant distance of 0.45 m-0.5 m. Adopt low dry cultivation tree shape, it can develop a high-yield mulberry garden generally in 3 years with the production of about 9500-10,000 branches per mu. Apply more organic fertilizer to full functioning high yield performance. In rainy and high humidity spring, pay attention to the drainage of trenches.

Suitable areas for planting:

Areas suitable for growing mulberry trees in Shandong, Anhui.

15. 'Leccino'

Species: *Olea europaea*

Scientific name: *Olea europaea* 'Leccino'

Type of material: Domesticated exotic variety

Category of certification: Certified

Registration No.: Guo S-ETS-OE-015-2023

Applicants: Gansu research Academy of Forestry Sciences and technology, Olive Industry Development Office in Wudu district, Longnan, Hubei Academy of Forestry, Chongqing Academy of Forestry

Breeders: Jiang Chengying, Zhao Haiyun, Zhu Hengxing, Huang Faxin, Wu Wenjun, Li Na, Jin Gaoming, Long Wei, Zhang Rong, Qi Jianli, Yan Zhongping, Yao Yufang, Huang Feiyi, Jiang Dezhi, Quan Jianzhou, Dai Qianli, Sun Wenyong, Zhang Huaizhong

Characteristics:

Introduction from Italy in 1979. The tree is robustly with opened crown. Medium, oval, and asymmetrical fruit with average weight of 3.14g. The average core weight was 0.57 g. The first fruit is in the 5th year after planting, and the peak fruiting is in the 8th to 9th year. In Longnan, Gansu Province, during the peak fruiting period, the average yield is 961.1kg per mu and the average oil content is 17.32%, which was 39.2% and 5.5% higher than that of the control 'Jiufeng 6', respectively. The main components of fatty acids is oleic acid content 68.3%-75.6%, with linoleic acid content of 5.0%-11.0%, linolenic acid content of 0.6%-1.0%, palmitic acid content of 13.5%-14.3%, palmitoleic acid content of 1.4%-2.5%, stearic acid content of 1.5%-2.4%, arachidic acid content of 0.3%. The incidence of freckle disease is 11.1% lower than that of 'Jiufeng 6'.

Main use:

Oil tree, fruit is used to extract olive oil.

Silvicultural techniques:

Select loam with sufficient light, soil thickness ≥ 80 cm, pH value 6.5-8.5, loose texture and good permeability. In spring and autumn, the planting density was 4 m \times 5 m-5 m \times 6 m, and each hole was applied with organic fertilizer of 20 kg-50 kg. Select two-year-old cuttings or grafted seedlings and set up ridge planting in more rainfall, more viscous or higher groundwater level areas, with a ridge height of 30-35 cm and a ridge width of about 1 m. After planting, expanded the hole once a year in autumn and winter, with a depth of 30 cm-40 cm and a width of 30 cm-40 cm. Open heart-shaped is the best, pay attention to the control of pests and diseases. The pollination varieties were "Peiduoling", "Ezhi 8", "Chenggu 32" and "Corati" olive, etc., with a ratio of 4 to 5:1.

Suitable areas for planting:

Areas suitable for growing olive in Gansu, Chongqing, Hubei.

16. 'Yanhong'

Species: *Castanea mollissima*

Scientific name: *Castanea mollissima* 'Yanhong'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CM-016-2023

Applicants: Beijing Academy of Agriculture and Forestry Sciences

Breeders: Lan Yanping, Cheng Lili, Hu Guanglong, Cheng Yunhe, Zhang Jingzheng, Wang Dongchen, Liu Jianling, Sun Jingshuang, Li Meng, Lan Weizong

Characteristics:

Round head-shaped trees with a compact crown. The involucre is round containing 2.4 nuts on average. The nuts are neat, reddish brown, with a medium base and an average single grain weight of 8.9 g. Pulp water content is 51.8%, and total sugar content is 20.25%, starch content is 36.8%, fat content is 1.1%, protein content is 3.71%. The nuts mature in mid to late September and can be stored and transported. In Huairou District of Beijing, during the full fruit period, the average yield was 170 kg per mu, which was 41 kg higher than that of the control 'Heizhai 7'.

Main use:

Roasting or processing.

Silvicultural techniques:

Plant in gully, flat land in front of mountains and beaches with the spacing of plants and rows of 3 m \times 4 m. After harvested, apply 500 kg -1000 kg per mu potassium-rich compound fertilizer according to site conditions as base fertilizer. Apply topdressing in early mid-April budding stage and mid-late June endosperm formation stage. Irrigation at germination stage and mid-late August fruit expansion stage. Choose more main branches naturally open heart-shaped, with 3-4 main branches, staggered arrangement, dense below and sparse above. Keep 8-12

bearing parent branches per square meter of canopy projection area. Retract pruning in winter. Mainly control red spider, peach borer, and blight disease.

Suitable areas for planting:

Areas suitable for growing *Castanea mollissima* in Beijing, Hebei.

17. 'Yanshanshuofeng'

Species: *Castanea mollissima*

Scientific name: *Castanea mollissima* 'Yanshanshuofeng'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CM-017-2023

Applicants: Institute of Changli Fruit Tree Research, Hebei academy of agriculture and forestry

Breeders: Wang Guangpeng, Zhang Shuhang, Li Ying, Guo Yan, Zhang Xinfang, Lan Yanping, Duan Penghui

Characteristics: The tree is tall, with strong growth potential and semi-open posture. The prickly bracts are oval, each bract contains 2.4 nuts, and the fruiting rate is 37.5%. Nut oval, brown, bright, less hairy, the average weight of a single grain 8.24 g; fruit water content of 48.2%, soluble sugar content of 20.1%, starch content of 49.8%, protein content of 4.85%, fat content of 1.22%. The rate of fruiting plants in the second year of grafting is more than 90%, and it enters into the fruiting period in three years of grafting. In Huairou District, Beijing, the fruit ripening period around 14 September, planted 6 years mu yield 294.2 kg, compared with the control 'big board red' chestnut increased by 17%.

Main use:

Being used for fried or processed for eating

Silvicultural techniques: It is suitable for planting in the gneiss rocky mountains and sandy riverbanks with pH5.6-7.0, the planting density is 4 m × 4 m-4 m × 6 m in full bearing period; using the method of plucking and leaf removal to promote the development of new shoots, in order to open up the angle, to increase the number of branches in the year of grafting; using alternating renewal pruning techniques for trimming in winter is preferred, the base of the sturdy branches above the 3 cm short cut to cultivate the preparatory branches, per square metre of canopy projection area to stay fruiting mother branch 8-9.

Suitable areas for planting:

Areas suitable for growing *Castanea mollissima* in Beijing, Hebei and Shanxi provinces.

18. 'Cuixiang'

Species: *Actinidia chinensis*

Scientific name: *Actinidia chinensis* 'Cuixiang'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-AC-018-2023

Applicants: Zhouzhi Agricultural Science and Technology Experiment Station, Shaanxi rural science and technology development center

Breeders: Huang Jingying, Lei Yushan, Zhang Xiaobin, Xu Ming, Liu Yi, Jin Pingtao, Lei Jing, Hao Ruiping, Li Yongchao

Characteristics: Early-maturing varieties, budding in mid-March, flowering in late April, fruit ripening in early September, with a fertility period of about 130 days. The fruit is obovate, neatly shaped, with an average single fruit weight of 91.2 g, yellow-brown skin, bright green flesh, aromatic flavour, soluble solids content of 16% to 19%, dry

matter content of 18% to 20%, total sugar content of 10.5%, Vc content of 85 mg/100 g, total acid content of 1.3%. The average mu yield is 1568 kg in full bearing period in Zhouzhi, Shaanxi Province.

Main use:

Fruits are used for edible purposes.

Silvicultural techniques: When planting, choose a flat or slope <30° half sunny slopes, soil thickness ≥ 50 cm, organic matter 1.2% or more, loose breathable, well-drained light loam, medium loam or sandy loam, soil pH 6.5-7.52. To a pole two vines and multiple lateral branches mainly, winter pruning. Apply no less than 2,000 kg of organic fertiliser per mu per year, and prohibit heavy watering. When the bud body grows to 5 cm, wipe the bud, can be divided into two times, bud spacing 15±5 cm. in the ear buds and the main buds separated from the bud thinning, single branch to leave an average of 3 to 4 buds. Pay attention to the control of ulcer disease, *Corticaria gibbosa*, stink bug and other pests and diseases. Use 'Qin Xiong 401' delicious kiwifruit as the pollination tree, the allocation ratio is 6 ~ 8:1.

Suitable areas for planting:

Areas suitable for growing *Actinidia chinensis* in Sichuan and Shaanxi provinces

19. 'Ruiyu'

Species: *Actinidia chinensis*

Scientific name: *Actinidia chinensis* 'Ruiyu'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-AC-019-2023

Applicants: Shaanxi rural science and technology development center, Bairui Kiwi Research Institute Co., Ltd, Zhouzhi Agricultural Science and Technology Experiment Station

Breeders: Lei Yushan, Xu Ming, Huang Jingying,, Li Yongwu, Wang Xirui, Lei Jing, Zhang Xiaobin, Wang Yaguo, Han Xiaozhao, Wang Ke, Jing Zaobin, Liu Yunsong, Li Liang

Characteristics: The tree grows robustly. Budding in mid-March, flowering in late April, and fruit ripening in mid-to late September, with a fertility period of 140 days in the northern foothills of the Qinling Mountains in Shaanxi Province. The fruit is cylindrical and oblate, neatly shaped, with a brown skin, yellow-brown hairs, and green, delicate and juicy flesh. The average single fruit weight is 92.6 g; soluble solids content is 19.1%; dry matter content is 20%-24%; titratable acid content is 0.8%; Vc content is 85.9 mg/100 g; soluble sugar content is 12-13%. In Zhouzhi County, Shaanxi Province, the average yield was 1,650 kg per mu in the fruiting season, and the post-ripening period was 25-30 days at room temperature, and the storage period was 5 months at low temperature.

Main use:

Fruits are used for edible purposes.

Silvicultural techniques: The main shape of the tree is one stem and two vines with many side branches or one stem and one vine with many side branches. Apply organic fertiliser of not less than 2,000 kg per mu per year, and use hanging spray belts to reasonably irrigate according to moisture conditions, and prohibit heavy water flooding. In 20 days after flowering two adjacent fruits are not adjacent to spray 1 time pyrethroid agents, the interval of 7-10 days consecutive re-spray. Select 'Rui Xiong 607' as the pollination tree, configuration ratio 5-6:1.

Suitable areas for planting:

Areas suitable for growing *Actinidia chinensis* in Sichuan and Shaanxi provinces.

Pre-certified varieties

1. 'Dongbai 31112'

Species: *Betula platyphylla* × *B. pendula*

Scientific name: *Betula platyphylla* × *B. pendula* 'Dongbai 31112'

Type of material: Family

Category of certification: Pre-certified for 5 years (2023.12.26-2028.12.25)

Registration No.: Guo R-SF-BP-001-2023

Applicants: Northeast Forestry University

Breeders: Li Huiyu, Liu Guifeng, Jiang Jing, Xing Kaixin, Peng Rusheng, Wang Lei, Li Tianfang, Hu Wanjin, Liu Gang, Wang Youju, Liu Kejian, Chen Lidong, Qu Yang, Li Zhixin, Nian Hongwei

Characteristics: Triploid. Trunk growth straight. In Chaoyang, Liaoning Province, the volume of wood of a 10-year-old tree is 0.0472 m³, which is 39.23% higher than the mean value of 21 families; the fiber length is 781.66 μm, which is 6.45% higher than the mean value of 21 families; the heddle cellulose content is 52.1%, which is 0.40% higher than the mean value of 21 families, respectively; the wood density is 0.2344 g/cm³, which is 1.91% higher than the mean value of 21 families.

Main use: It can be used as timber tree.

Silvicultural techniques: Before sowing, the seeds are treated with 0.5% potassium permanganate for 30 minutes, and the seeds are mixed with river sand at a volume ratio of 1:1, and placed at 25 °C ~ 30 °C for germination.

Seedlings use plastic greenhouse nutrient cups, sowing the germination-treated birch seeds onto the surface of the nutrient cup substrate, without covering the soil. The forestation chooses the land with a gradient of 30° or less, gentle sunny slopes, medium slopes, and soil thickness of 30 cm or more. The initial planting density of 2500 plants / hm². spring open hole afforestation is mainly, digging hole diameter 30 cm-60 cm, depth 30 cm-50 cm is appropriate.

Suitable areas for planting:

Areas suitable for growing *Betula platyphylla* in Hei Longjiang and Liaoning provinces.

2. 'Zhongshanshan 502'

Species: *Taxodium distichum* (L.) Rich.

Scientific name: *T. mucronatum* × *T. distichum* 'Zhongshanshan 502'

Type of material: Variety

Category of certification: Pre-certified for 3 years (2023.12.26-2026.12.25)

Registration No.: Guo R-SV-TM-002-2023

Applicants: Institute of Botany, Jiangsu Province and Chinese Academy of Sciences, Jingzhou Branch of Hubei Academy of Forestry Sciences, Jingzhou Branch; Fengtai County Forest Nursery

Breeders: Yu Chaoguang, Yin Yunlong, Xu Jianhua, Xu Hebao, Hua Jianfeng, Wang Ziyang, Xuan Lei, Lu Zhiguo, Yang Ying, Shi Qin, Wang Zhiquan, Lu Yan, Ding Ciping, Zhang Lingyun, Jiang Jinfan, Gui Qibing, Zhao Feng, Zhao Rui

Characteristics:

Semi-evergreen deciduous tree with a straight main trunk; leaves are dark green, turning yellow in winter. Needle arrangement is dense, extending at an angle of about 50°. It can grow normally in soil with a pH ≤ 8.5 and a salt content ≤ 3.5%. It can thrive in water bodies with a depth of 1/5 of the tree height. The annual average breast height diameter growth is 1.8 cm to 2 cm, and the tree height growth is 80 cm to 100 cm.

Main use:

Protective forest and ecological forest tree species.

Silvicultural techniques:

During the transplantation of seedlings, they should be transplanted promptly after lifting. For excessively long root systems, pruning is necessary, and sufficient water should be provided to establish the roots. During afforestation for landscaping, attention should be given to moderately deep planting. When using seedlings taller than 2 meters for afforestation, appropriate branch thinning is advisable to improve planting survival rates. In afforestation and landscaping on saline-alkali land, container seedlings should be preferred, and shallow planting is emphasized. Adequate soil cultivation is recommended, avoiding large planting holes to prevent salt damage.

Suitable areas for planting:

Its suitable planting range includes Jiangsu, Hubei, Anhui, and other regions conducive to *Taxodium distichum* cultivation.

3. 'Jingbai 1'

Species: *Populus tomentosa* Carrière

Scientific name: *P. tomentosa* 'Jingbai 1'

Type of material: Clone

Category of certification: Pre-certified for 5 years (2023.12.26-2028.12.25)

Registration No.: Guo R-SC-PJ-003-2023

Applicants: Beijing Forestry University

Breeders: An Xinmin, Guo Bin, Li Shanwen, Chen Zhong, Di Guiming, Gao Kai, Yang Xiaoyu, Ye Meixia, Yang Xiong, Guo Xinxiang, Xue Yinxuan, Li Ying, Qi Wanxin, Huang Sai, Guo Ting

Characteristics:

The female *Populus tomentosa* Carrière tree has a straight trunk. In Jinzhong, Shanxi, at the age of 4, the average height is 9.7 meters, and the average diameter at breast height is 9.8 centimeters. Compared to the control *Populus* 'Lumao 50', it is 21% higher in height and 19.5% higher in diameter at breast height. The crown width is 13.8% smaller, branch angle is 18.8% smaller, and the average individual volume is 65.8% higher compared to the *Populus* 'Lumao 50'. The wood basic density is 0.3542 g/cm³, fiber length is 0.90 mm, and the fiber length-to-width ratio is 37.37. The cellulose content is 45.93%, and the comprehensive cellulose content is 79.76%.

Main use:

Timber species

Silvicultural techniques:

Reproduction is typically carried out through asexual propagation, commonly using grafting techniques. The *Populus* 'Qunzhong' is selected as the root-stock, and methods such as cleft grafting and bud grafting are frequently employed. Planting is suitable during spring and late autumn to early winter, completed before seedling budding. The preferred specifications for afforestation seedlings are generally two roots with one stem or three roots with two stems. Prior to planting, proper pruning of seedlings is recommended, removing all lateral branches and cutting away poorly lignified portions of the seedling shoot, leaving a strong bud 1 cm below the cut. The tree pit dimensions are typically 60 cm × 60 cm × 60 cm. Common planting spacings are 3 m × 3 m or 4 m × 4 m.

Suitable areas for planting:

Areas suitable for planting *Populus* in Shanxi and Shandong.

4. 'Xibei 3'

Species: *Populus alba* × *Populus tomentosa*

Scientific name: *Populus alba* × *Populus tomentosa* 'Xibei 3'

Type of material: Clone

Category of certification: Pre-certified for 5 years (2023.12.26-2028.12.25)

Registration No.: Guo R-SC-PA-004-2023

Applicants: Northwest Agriculture and Forestry University

Breeders: Fan Junfeng, Zhou Yongxue, Gao Jianshe, Zhang Jinmei, Yin Guangjing, Ma Wenbin, Wang Peng, Liu Baoyao, Shi Jianhua, Xie Junfeng, Zhou Feimei, Wang Lei

Characteristics:

It is a female specimen with a straight trunk and moderately angled branches. The leaves have 3 to 5 palmate lobes. At 10 years of age, the average height is 21.73 meters, and the average volume is 0.3681 m³. Compared to the control varieties ' *P. tomentosa* 30,' 'Poplar Qinbai 1,' and 'Poplar Northwest 2,' the average volume is 150.31%, 32.84%, and 17.32% higher, respectively. The disease index of black spot disease is 15.56%, which is 12% lower than ' *P. tomentosa* 30'.

Main use:

Timber species

Silvicultural techniques:

The seedling reproduction is carried out through cutting propagation with a planting density ranging from 4000 to 5000 seedlings per acre. Afforestation is accomplished through seedling planting, utilizing 1 to 3-year-old seedlings. For one-year-old seedlings, pruning the shoot back to 40 cm to 60 cm is recommended, leaving a full bud 1 cm below the cut, which enhances the survival rate and promotes the main shoot's growth in the same year. Properly deep planting is advised, with a planting depth of 40 cm to 60 cm and a spacing of 3 m × 3 m.

Suitable areas for planting:

Areas suitable for planting poplar in Shaanxi, Qinghai.

5. Olive Zhongshan 24

Species: *Olea europaea*

Scientific name: *Olea europaea* 'Zhongshan 24'

Type of material: Variety

Category of certification: Pre-certified for 3 years (2023.12.26-2026.12.25)

Registration No.: Guo R-SV-OE-005-2023

Applicants: Gansu Research Academy of Forestry Science and Technology; Wudu Area of Longnan City Office of Olive Industry Development; Institute of Botany, Chinese Academy of Sciences, Jiangsu Province; Hubei Academy of Forestry Sciences; Yunnan Academy of Forestry and Grassland Sciences

Breeders: Jiang Chengying, Wu Wenjun, Li Yongjie, Jiang Dezhi, Zhao Haiyun, He Shan'an, Ning Delu, Yan Zhongping, Li Na, Huang Faxin, Long Wei, Qi Jianli, Quan Jianzhou, Zhang Rong, Jin Gaoming, Yao Yufang, Li Jiase, Sun Wenyong

Characteristics:

Its crown is neat and compact. The fruit is elongated, with an average weight of 6.13g per fruit. The flesh is thick, with an average pulp rate of 88.68%. The fruits are well-shaped, and the flesh kernel is easily separable. The fresh fruit oil content is 14.57%, oleic acid content is 60.2% to 65.8%, linoleic acid content is 1.5% to 3.0%, linolenic acid content is 0.6% to 1.5%, palmitic acid content is 16.5% to 18.3%, palmitoleic acid content is 2.4% to 4.6%, and stearic acid content is 1.5% to 3.0%. The seedlings start bearing fruit in the 5th year after planting, and they enter the peak fruiting period in the 8th to 9th years. In the peak fruiting period in Longnan City, Gansu Province, the yield is 868 kg per acre, which is 34.25% higher than that of the control 'Chenggu 32' olive.

Main use:

The fruits are used for extracting olive oil and can also be used for pickling and canning.

Silvicultural techniques:

Select well-lit areas with soil thickness ≥ 80 cm, pH values ranging from 6.5 to 8.5, and well-draining loamy soil with loose texture. Planting should be done in spring or autumn, with a spacing of 4 m \times 5 m to 5 m \times 6 m. Apply organic fertilizer at a rate of 20 kg to 50 kg per planting hole. In regions with higher rainfall, sticky soil, or a high water table, ridge planting is recommended, with a ridge height of 30 cm to 35 cm and a width of about 1 m. Choose 2-year-old cuttings or grafted seedlings of at least secondary grade. After planting, conduct annual expansion of the planting hole in late autumn or winter, with a depth of 30 cm to 40 cm and a trench width of 30 cm to 40 cm. The optimal tree shape is an open-centered form, and attention should be given to disease and pest control. For example, configure pollinating trees 'Keli' or 'Jiufeng 6' olive in a ratio 4:1 or 5:1.

Suitable areas for planting:

Area suitable for planting olive in Gansu, Hubei, Yunnan.

Notes: The Pre-certified varieties may not be used as improved varieties after expiration and need to be certified again.