

附件

2021 年度林木良种名录

(中英文)

审定通过品种

1. ‘森海 2 号’杨树

树种：杨树

学名：*Populus*×‘Senhai 2’

类别：品种

通过类别：审定

编号：国 S-SV-PS-001-2021

申请人：中国林业科学研究院林业研究所

选育人：胡建军、赵自成、秦培钧、曾庆银、苏雪辉、王丽娟、李振刚、冯长红、张学龙、巴威、岳志强、校丙申、黄爱菊、李淑梅、卢孟柱、李玲、安学惠、韩一凡

品种特性

雄株，三倍体。主干通直圆满，树冠中等，树皮光滑，青灰色。在北京地区 7 年生胸径、树高年均生长量分别为 2.77cm、1.97m；单株材积 0.1520m³，分别超过对照 108 杨、创新杨 11.0%、11.16%；11 年生基本密度为 0.349g/cm³，纤维长 1431.57μm，纤维宽 27.10μm。

主要用途

用材树种。

栽培技术要点

选用无病虫害壮苗栽植，带根苗木胸径 2.0cm 以上，苗高 3.5m 以上；插干规格胸径 2.0cm 以上，高度 3.5m 以上；截干规格直径 2.0cm 以上，高度 50cm；深植 50cm-60cm；造林前苗木浸泡 2 天以上，造林密度 300-1250 株/hm²，造林后 1-3 年可间作矮秆作物。

适宜种植范围

北京、河北、河南等杨树适宜栽培区。

2. ‘中怀 1 号’杨树

树种：杨树

学名：*Populus deltoides* ‘Zhonghuai 1’

类别：品种

通过类别：审定

编号：国 S-SV-PD-002-2021

申请人：中国林业科学研究院林业研究所

选育人：胡建军、赵自成、曾庆银、李金花、赵树堂、王留强、苏雪辉、李振刚、李喜林、王志彬、刘宾、贾建学、李玲、卢孟柱、韩一凡

品种特性

雄株，三倍体。主干通直圆满，树皮灰褐色，纵裂。在北京地区 7 年生胸径、树高年均生长量分别为 2.76cm、2.17m；单株材积 0.1627m³，分别超过对照 108 杨、创新杨 18.8%、19.0%；11 年生纤维长 1453.19μm，纤维宽 25.75μm，基本密度 0.351g/cm³；木质素、综纤维素、α-纤维素、1%NaOH 抽出物含量分别为 18.01%、78.61%、45.66%和 16.24%；木质素含量比对照 108 杨、中林 46 杨减少 6.34-8.44%、综纤维素增加 1.75-3.89%。

主要用途

用材树种。

栽培技术要点

选用无病虫害壮苗用于栽植，带根苗木胸径 2.0cm，苗高 3.5m 以上；插干规格胸径 2.0cm 以上，高度 3.5m 以上；截干规格直径 2.0cm 以上，高度 50cm；深植 50cm-60cm；造林前苗木浸泡 2 天以上。造林密度 300-1250 株/hm²，造林后 1-3 年可间作矮秆作物。

适宜种植范围

北京、河北、河南等杨树适宜栽培区。

3. ‘瑞都红玫’葡萄

树种：葡萄

学名： *Vitis vinifera* ‘Ruidu Hongmei’

类别：品种

通过类别：审定

编号：国 S-SV-VV-003-2021

申请人：北京市林业果树科学研究院

选育人：徐海英、孙 磊、闫爱玲、张国军、唐美玲、雷 龔、王慧玲、王晓玥、任建成
王健莘、刘万好、刘鑫铭、陈 婷

品种特性

早熟品种。果穗圆锥形，有副穗，平均单穗重 430.0g。果粒椭圆形或圆形，平均单粒重 6.6g，最大单粒重 9g。成熟时果皮紫红色，有玫瑰香味，可溶性固形物含量为 18.2%。在北京地区一般 4 月中下旬萌芽，5 月下旬开花，8 月中或下旬果实成熟，生长期约 120 天左右。盛果期亩产可达 1500kg。

主要用途

鲜食。

栽培技术要点

篱架栽培使用扇形整枝，中短梢相结合修剪；棚架栽培使用龙干形整枝，以短梢修剪为主。注意提高结果部位，增加底部通风带，以减少果实病虫害发生。适当疏花疏果，果实套袋栽培，每穗留果粒 70-90 粒。果实转色后注意补充磷钾肥并及时防治白腐病和炭疽病等果实病害。

适宜种植范围

北京、山东地区露地栽培，福建地区避雨设施内栽培。

4. ‘瑞都科美’葡萄

树种：葡萄

学名： *Vitis vinifera* ‘Ruidu Kemei’

类别：品种

通过类别：审定

编号：国 S-SV-VV-004-2021

申请人：北京市林业果树科学研究院

选育人：徐海英、孙磊、闫爱玲、张国军、唐美玲、雷龔、王慧玲、王晓玥、任建成、王健苹、刘万好、刘鑫铭、陈婷

品种特性

中熟品种。果穗圆锥形，有副穗，平均单穗重 502.5g；果穗紧密度中或松，果粒着生紧密度中或松；果粒椭圆形或卵圆形，平均单粒重 7.2g，最大单粒重 9.0g；成熟时果皮金黄色，味甜，有浓玫瑰香味，可溶性固形物含量为 17.2%，可滴定酸含量 0.5%。在北京地区 4 月中下旬萌芽，5 月下旬开花，8 月下旬果实成熟，生长期约 130 天左右。盛果期亩产 1500kg 以上。

主要用途

鲜食。

栽培技术要点

篱架栽培使用扇形整枝，中短梢相结合修剪；棚架栽培使用龙干形整枝，以短梢修剪为主。注意提高结果部位，增加底部通风带，以减少果实病虫害发生。适当疏花疏果，果实套袋栽培，每穗留果粒 70-90 粒。果实转色后注意补充磷钾肥并及时防治白腐病和炭疽病等果实病害。

适宜种植范围

北京、山东地区露地栽培，福建地区避雨设施内栽培。

5. ‘京暑红’板栗

树种：板栗

学名： *Castanea mollissima* ‘Jingshuhong’

类别：品种

通过类别：审定

编号：国 S-SV-CM-005-2021

申请人：北京农学院

选育人：秦岭、曹庆芹、张卿、秦建国、陆斌、邢宇、王金宝、梁义春、刘建玲、房克凤

品种特性

早熟品种。总苞椭圆形，平均单苞重 49.1g，每苞平均含坚果 2.3 粒，平均单粒重 8.2g；坚果红褐色，出实率 41.2%；栗仁含水量 57.23%，淀粉含量 38.15%，可溶性糖含量 20.41%；内果皮易剥离，果肉黄色，质地细糯，风味香甜。在北京地区 4 月中旬萌芽，6 月中旬盛花，8 月 23 日左右成熟，果实发育期约 75 天。盛果期亩产 209.7kg。

主要用途

炒食、加工利用，也可作为育种材料。

栽培技术要点

适宜密植栽培，授粉树配置以‘燕山红栗’和‘燕山早丰’为宜。树形宜采用自然开心形，每平方米树冠投影面积保留结果母枝 6-9 个。盛果期修剪疏缩结合，生长期注意对红蜘蛛、桃蛀螟等害虫的防治。由于采收期早，白天气温较高，建议及时拾栗。如果打栗采收，应及时脱蓬，防霉烂。

适宜种植范围

北京、河北、云南等板栗适宜栽培区。

6. ‘金华 1 号’薄壳山核桃

树种：薄壳山核桃

学名： *Carya illinoensis* ‘Jinhua 1’

类别：品种

通过类别：审定

编号：国 S-SV-CI-006-2021

申请人：浙江省林业科学研究院

选育人：朱汤军、习学良、彭华正、叶华琳、金群英、徐文荣、李永荣、吴超群、何正宽、谢孝福、许明权、寸怀弟

品种特性

大果型品种，坚果平均长 40.87mm、果径 23.66mm，果长/果径 1.73。坚果长椭圆形，果顶钝尖，凹陷，果底圆；平均单果重 33.99g，平均单个坚果干重 8.09g，出籽（湿籽）率 23.80%；坚果出仁率为 45.49%，易取仁，果仁黄白色，无涩味。盛果期平均亩产 93.18kg，超过对照品种‘Pawnee’53%。3 月中下旬萌芽，4 月中旬花芽萌动，7-8 月果实速生期，10 月中旬果实采收。

主要用途

鲜食或加工。

栽培技术要点

12 月至次年 3 月定植，选择‘绍兴 1 号’、‘ZL30’以及‘莫霍克’等作为授粉树；初植时株行距 4m×4m，后期稳定为 8m×8m，可间种低矮猕猴桃、油茶、桃树等；生长期对当年抽生的新梢进行短截，结果期的植株，以冬季修剪为主，修剪时尽量保留结果母枝，增加结果部位；注意肥水管理。

适宜种植范围

浙江、江苏和云南等薄壳山核桃适宜栽培区。

7. ‘绍兴 1 号’薄壳山核桃

树种：薄壳山核桃

学名： *Carya illinoensis* ‘Shaoxing 1’

类别：品种

通过类别：审定

编号：国 S-SV-CI-007-2021

申请人：浙江省林业科学研究院

选育人：朱汤军、习学良、彭华正、叶华琳、金群英、徐文荣、李永荣、吴超群、何正宽
谢孝福、许明权、寸怀弟

品种特性

小果型品种，平均果长 32.6mm，平均果径 22.2mm，长径比 1.47。果实长椭圆形，壳面光滑。平均单果重 25.87g，平均单个坚果干重 6.32g，出籽（湿籽）率 24.43%，坚果出仁率 45.49%。盛果期平均亩产 118.42kg，超过对照品种‘Pawnee’94%。3 月中下旬萌芽，4 月中旬花芽萌动，7-8 月果实速生期，10 月中旬果实采收。

主要用途

鲜食或加工。

栽培技术要点

12 月至次年 3 月定植，选择‘金华 1 号’、‘ZL30’以及‘莫霍克’等作为授粉树；初植时株行距按 4m×4m，后期稳定为 8m×8m，可间种低矮猕猴桃、油茶、桃树等；生长期对当年抽生的新梢进行短截，结果期的植株，以冬季修剪为主，修剪时尽量保留结果母枝，增加结果部位；注意肥水管理。

适宜种植范围

浙江、江苏和云南等薄壳山核桃适宜栽培区。

8. ‘秋蜜’枣

树种：枣

学名：Ziziphus jujuba ‘Qiumi’

类别：品种

通过类别：审定

编号：国 S-SV-ZJ-008-2021

申请人：河北农业大学

选育人：毛永民、姜 闯、申连英、王晓玲、毛利慧、陆 军、仇晓靖、吴凤霞、陈月媚
潘晓飞、邵晓勇、曹 芳、刘淑怡、李智慧、李旭茂

品种特性

树势中庸，针刺不发达。枣吊平直，平均长 22cm。果实椭圆形，平均单果重 10.83g；果顶平，果皮橘红色，光滑；鲜枣果肉白绿色，可溶性固形物含量 33.5%，可滴定酸含量 1.63%，果实可食率 96.5%，干枣含糖量 76.94%。在河北大名地区 4 月上旬萌芽，6 月上旬盛花期，9 月上中旬成熟，果实发育期 90 天，盛果期平均亩产 1007.9kg。

主要用途

鲜食、制干。

栽培技术要点

选用地径 1.2cm 以上的壮苗，按照 1-2m×2-4m 的株行距定植。栽后用水灌足灌透，在栽植行两边覆盖 0.8-1m 宽的黑地膜或园艺地布。树形采用疏散分层形或开心形，花量大，自然座果率高，不需要开甲。主要防治绿盲蝽象、红蜘蛛、枣锈病等常见病虫害。

适宜种植范围

河北、新疆阿克苏和库尔勒等枣适宜栽培区。

9. ‘晋富 2 号’苹果

树种：苹果

学名：*Malus pumila* ‘Jinfu 2’

类别：品种

通过类别：审定

编号：国 S-SV-MP-009-2021

申请人：山西农业大学

选育人：牛自勉、蔚露、李志强、廉国武、谢鹏、林璟、李全、王红宁、程晓廷
卢志俊、何江、郝燕燕、何永波、张超、孙俊宝、杨培仁

品种特性

‘宫腾富士’苹果的芽变品种。果面浓红，色彩鲜亮，着色面积 95% 以上；果实平均可溶性固形物含量 16.2%，含钾 1380mg/kg，含钙 79.8mg/kg，含镁 68.8mg/kg，含锌 0.134mg/kg，含铁 0.858mg/kg，总糖含量 13.75g/100g，Vc 含量 3.18g/100g。能耐冬季极端-25℃低温，在山西省临猗县盛果期亩产可达 2954-3268kg。

主要用途

鲜食，加工果汁或果干。

栽培技术要点

乔化果园株行距 5×6m 或 6×8m，采用开心树形，成龄树全树保留 3-4 个主枝，并培养下垂的长抽结果枝；矮化果园株行距 4m×1-1.5m，采用高纺锤树形，成龄树每株选留 25-40 个结果枝。平均每亩留果量 1.05-1.2 万个，并在 5 月中旬之前完成疏果定果。

适宜种植范围

山西、河北、河南等苹果适宜栽培区。

10. ‘瑞香红’苹果

树种：苹果

学名：*Malus domestica* ‘Ruixianghong’

类别：品种

通过类别：审定

编号：国 S-SV-MD-010-2021

申请人：西北农林科技大学

选育人：赵政阳、杨亚州、王雷存、高华、刘振中、武月妮、梁俊、张伯虎、景淑娟
孙鲁龙、畅文选、徐巨涛、孙建春、柴相让、段宝珍

品种特性

‘秦富 1 号’作母本，‘粉红女士’作父本杂交选育，晚熟品种。树势中庸，树姿直立；果实大小中等，平均单果重 197g；果实长圆柱形，果形指数 0.97；果实深红色，果肉黄白色；果实硬度 8.6kg/cm²，可溶性固形物含量 16.9%，总糖含量 14.59 g/100g，可滴定酸含量 0.18%，Vc 含量 1.85mg/100g。成熟期 10 月下旬，在陕西省白水縣盛果期亩产可达 2579kg。

主要用途

鲜食。

栽培技术要点

采用 M26、M9-T337 等矮化自根砧或中间砧矮化栽培，株行距 1.5-2m×3.5-4m；选用长富 2 号、新红星、嘎拉、瑞阳等作为授粉品种，按 15-20% 配置；树形选用细长纺锤形或高纺锤形，树高控制在 3.5-4.0m，中心干培养 20-30 个结果枝组；冬剪以疏枝为主。注重对蚜虫、卷叶蛾、叶螨、食心虫和早期落叶病、白粉病等病虫害的防治。

适宜种植范围

陕西、山西、甘肃等苹果适宜栽培区。

11. ‘鄂植 8 号’油橄榄

树种：油橄榄

学名： *Olea europaea* ‘Ezhi 8’

类别：品种

通过类别：审定

编号：国 S-SV-OE-011-2021

申请人：湖北省林业科学研究院

选育人：邓先珍、姜德志、姜成英、武显维、宁德鲁、赵海云、黄发新、程军勇、陈卓良
王瑞文、李勇杰、黄国振、吴文俊、郑京津

品种特性

树冠圆头形，冠体低矮；果实长椭圆形，玫瑰红色，果汁少；果核倒卵圆形，褐色，有沟状条纹；单果重 4.26g，果形指数 1.49；鲜果含油率在 17-21%；油酸含量 70.6%-73.5%，亚油酸含量 6.39%-9.1%，棕榈酸含量 15.7%-17.3%，硬脂酸含量 1.13%-2.4%，盛果期单株产量在 9.6kg-27.6kg。

主要用途

食用油料树种；果实也可加工制成蜜饯、罐头。

栽培技术要点

选择 2 年生以上扦插苗或嫁接苗按 4×5m-5×6m 栽植；采用开心树形。湿度较大的地区注意炭疽病的防治，采果后全园喷 1 次 0.3-0.5 波美度石硫合剂。在春季新梢生长至花期，喷施 1:2:200 波尔多液 2-3 次，果实发病期用 40% 多菌灵可湿性 500-800 倍液可以有效控制病害蔓延。

适宜种植范围

湖北、甘肃、云南等油橄榄适宜栽培区。

12. ‘桑梓 2 号’桑树

树种：桑树

学名： *Morus alba* ‘Sangzi 2’

类别：品种

通过类别：审定

编号：国 S-SV-MA-012-2021

申请人：安徽省农业科学院蚕桑研究所

选育人：邓永进、于洁、孙明娜、韩智宏、章守富、高俊兰、丁天龙、杨璐、刘志宏、钱沁春、潘立斌、张泽伟、赵莲英、潘听党、刘可计、王朝晖、张慧敏、王召锋、曹若梅、潘子梅、刘国峰、朱燕、朱景娟、张媛

品种特性

2009年采用离子束辐射诱变育种,2012年筛选出变异优株。桑果呈紫褐色,果长2-4cm,果重3-5g,果柄极短,有籽;具2次结果习性,以春季产量最大,秋季产量约为春季的15%;果实蛋白质含量2.29g/100g,花青素含量0.344%,总糖含量8.7%,总酸含量1.79g/kg,可溶性固形物含量13.7%,出汁率63.9%。桑果始熟期5月上旬,盛熟期在5月中下旬,6月上旬果期结束,果期一个月,全年累计亩产果可达3000kg。

主要用途

鲜食或加工。

栽培技术要点

定植时株行距2m×3m,每年3月上中旬发芽后喷施甲基托布津、啶酰菌胺等药剂防治病害;6月上旬果期结束后加强修剪,树形以主干、主枝、结果枝三级结构的中空外心型为宜;通风透光,及时去除病果。

适宜种植范围

安徽、河南、新疆等桑树适宜栽培区。

13. ‘桑梓3号’桑树

树种：桑树

学名：*Morus alba* ‘Sangzi 3’

类别：品种

通过类别：审定

编号：国S-SV-MA-013-2021

申请人：安徽省农业科学院蚕桑研究所

选育人：邓永进、于洁、孙明娜、韩智宏、刘健、潘听党、王锐、杨璐、刘和洋、李冰、钱沁春、潘立斌、张泽伟、王朝晖、刘国峰、张慧敏、王召锋、陈艳英、曹若梅、任笑媛、杨志芳、陶西俊、陈怀玉

品种特性

‘珍珠白’为母本,‘大白珍珠’为父本杂交选育。果实乳白色,总糖含量15.9%,总酸含量1.55g/kg,花青素含量0.0105%,蛋白质含量1.30g/100g,出汁率73.9%,可溶性固形物含量24.2%。桑果始熟期5月上旬,盛熟期在5月中下旬,6月上旬果期结束,为期一个月。定植3年后达丰产期,平均亩产可达360.65kg。

主要用途

鲜食或加工。

栽培技术要点

选取根系发达、生长健壮的嫁接苗定植,定植时间以12月初到次年3月上旬为宜。株

行距按 2m×3m。每年 3 月上中旬发芽后喷施甲基托布津、啶酰菌胺等药剂防治病害；6 月上旬果期结束后加强修剪，树形以主干、主枝、结果枝三级结构的中空外心型为宜；通风透光，及时去除病果。

适宜种植范围

安徽、河南、新疆等桑树适宜栽培区。

14. ‘锦花’桃

树种：桃

学名： *Prunus persica* ‘Jinhua’

类别：品种

通过类别：审定

编号：国 S-SV-PP-014-2021

申请人：上海市农业科学院

选育人：叶正文、苏明申、杜纪红、李雄伟、周慧娟、张夏南、张明昊

品种特性

果肉金黄，肉质硬溶；成熟期较‘锦园’晚熟 20-25 天；平均单果重为 238-263g。果实可溶性固形物含量 13.8%，可滴定酸含量 0.36%，蔗糖含量 45.5mg/g，果糖含量 24.0mg/g，葡萄糖含量 21.5mg/g，山梨醇含量 9.0mg/g，苹果酸含量 2.8mg/g，奎宁酸含量 2.8mg/g，柠檬酸含量 2.0mg/g，Vc 含量 11.0mg/100g；在上海地区 9 月上旬集中采收，6 年达到盛果期，8 年生亩产可达 1989kg。

主要用途

鲜食。

栽培技术要点

选择土层深厚，地下水位 1 m 以下的地块建园，不需配置授粉树；7 月上旬和 8 月上旬各施肥一次，以速效氮磷钾复合肥为主；及时防治桃穿孔病、桃褐腐病、桃蚜、桃蛀螟、桃小食心虫、桃潜叶蛾等病虫害。

适宜种植范围

上海、山东等桃适宜栽培区。

15. ‘瑞蟠 21 号’桃

树种：桃

学名： *Prunus persica* ‘Ruipan 21’

类别：品种

通过类别：审定

编号：国 S-SV-PP-015-2021

申请人：北京市林业果树科学研究院

选育人：郭继英、姜全、赵剑波、任飞、张瑜、王尚德、刘鑫、王真、李新越
郭建强

品种特性

‘幻想’为母本，‘瑞蟠 4 号’为父本杂交选育，晚熟品种。果实扁平形，平均单果重 235.6g；果肉黄白色，粘核。可溶性固形物含量 13.5%，总糖含量 9.74%，可滴定酸含量 0.19%，Vc

含量 8.72g/100g。北京地区 3 月下旬萌芽，4 月中旬盛花，9 月下旬果实成熟，果实发育期 166 天，生长期 208 天左右。盛果期亩产可达 2200kg 以上。

主要用途

鲜食。

栽培技术要点

幼树春季萌芽期定植，使用“Y”字形树形，株行距 2.5-3m×5-6m；幼树及时开心、扭枝，开张树体角度。根据预期产量合理留果，生长后期加强褐腐病、食心虫和桔小实蝇的防治。

适宜种植范围

北京、河北、山东等桃适宜栽培区。

16. ‘云甜 1 号’甜龙竹

树种：甜龙竹

学名：*Dendrocalamus brandisii* ‘Yuntian 1’

类别：品种

通过类别：审定

编号：国 S-SV-DB-016-2021

申请人：西南林业大学

选育人：辉朝茂、刘蔚漪、官凤英、黄大勇、张喜、孙茂盛、史正军、石明、鲁定伟、申家兴、邹学明、嵇凯

品种特性

秆高 15-25m，直径 12-18cm，节间长 30-40cm；秆型通直，枝下高大于 3m，秆基部箨片直立，幼秆基部具有明显的条纹状灰白色绒毛；最早于 6 月上旬即开始发笋，每丛发笋可达 15 头，粗蛋白质含量 2.10%，鲜味氨基酸含量 0.476%，甜味氨基酸含量 0.145%，芳香族氨基酸含量 0.031%，粗脂肪含量 1.94%；单笋平均鲜重 3.3kg，产笋量可达 16335kg/hm²。

主要用途

笋用。

栽培技术要点

采用雨季造林，初植密度为 12-22 株/亩，点状或块状整地，规格 60cm×60cm×50cm，宜采用打浆定植；成林后适时适量施用农家肥或生物有机肥，注意疏笋育竹、留笋养竹，每丛留 5-7 秆，截秆去梢，秆高保留 3-4m。加强抚育和病虫害防治。

适宜种植范围

云南南部，广西、贵州等竹适宜栽培区。

17. ‘华金’油茶

树种：油茶

学名：*Camellia oleifera* ‘Huajin’

类别：品种

通过类别：审定

编号：国 S-SV-CO-017-2021

申请人：中南林业科技大学

选育人：谭晓风、袁德义、袁 军、李建安、邹 锋、李 泽、刘 蕾、黄 东、程军勇
黄永芳、余亚平

品种特性

树体生长旺盛，树冠纺锤形；10月中下旬为始花期，11月上旬为盛花期；果实青色，椭圆形；种籽数 6-10 粒，鲜出籽率 36.38%，百粒重 220.82g，干籽含油率 46.0%，油酸含量 81.65%，亚油酸含量 9.22%，棕榈油酸含量 6.14%，硬脂酸含量 2.20%。盛产期平均产油可达 930kg/hm²。

主要用途

食用油料树种。

栽培技术要点

采用 3 年生轻基质大苗造林，造林密度为 60-82 株/亩；授粉品种为‘华鑫’或‘长林 53’；适当剪去过密枝条，进入盛果期适当疏果；适时施肥，保障营养供给；10月中下旬果实种子成熟，初裂果时采收。

适宜种植范围

湖南、湖北、河南、广东、广西、贵州、江西等油茶适宜栽培区。

18. ‘华硕’油茶

树种：油茶

学名：*Camellia oleifera* ‘Huashuo’

类别：品种

通过类别：审定

编号：国 S-SV-CO-018-2021

申请人：中南林业科技大学

选育人：谭晓风、袁德义、袁 军、李建安、邹 锋、李 泽、刘 蕾、黄 东、程军勇
黄永芳、余亚平

品种特性

树冠圆头形，树体紧凑；果实成熟时黄色，种籽数 12-18 粒，鲜出籽率 42.36%，百粒重 250.0g，干籽含油率 41.71%。油酸含量 89.89%，亚油酸含量 7.77%，盛产期平均产油可达 1023kg/hm²。

主要用途

食用油料树种。

栽培技术要点

采用 3 年生轻基质大苗造林，造林密度为 60-82 株/亩；授粉品种为‘衡东大桃 2’；枝叶稀疏，幼树适当整形，不宜过度修剪，进入盛果期适当疏果；适时施肥，保障营养供给，10月下旬至 11月上旬果实种子成熟，不裂果，适时采收。

适宜种植范围

湖南、湖北、河南、广东、广西、贵州、江西等油茶适宜栽培区。

19. ‘华鑫’油茶

树种：油茶

学名：*Camellia oleifera* ‘Huaxin’

类别：品种

通过类别：审定

编号：国 S-SV-CO-019-2021

申请人：中南林业科技大学

选育人：谭晓风、袁德义、袁军、李建安、邹锋、李泽、刘蕾、黄东、程军勇、黄永芳、余亚平

品种特性

树体生长旺盛，树冠自然圆头；果形扁圆形，青黄色，种籽数 7-15 粒，鲜出籽率 52.56%，百粒重 310.37g，干籽含油率 39.97%；油酸含量 88.90%，亚油酸含量 8.38%，亚麻酸含量 0.06%，硬脂酸含量 1.46%。盛产期平均产油可达 900kg/hm²。

主要用途

食用油料树种。

栽培技术要点

采用 3 年生轻基质大苗造林，造林密度为 60-82 株/亩；授粉品种为‘华金’或‘LXC15’；枝叶较为稀疏，幼树适当整形，不宜过度修剪，进入盛果期适当疏果；适时施肥，保障营养供给，10 月下旬果实种子成熟，初裂果时采收。

适宜种植范围

湖南、湖北、河南、广东、广西、贵州、江西等油茶适宜栽培区。

20. ‘红棘 1 号’沙棘

树种：沙棘

学名：*Hippophae rhamnoides* × *H. subsinensis* ‘Hongji 1’

类别：无性系

通过类别：审定

编号：国 S-SV-HR-020-2021

申请人：中国林业科学研究院林业研究所

选育人：张建国、段爱国、罗红梅、孙广树、乌志颜、李健雄、何彩云、周闯、刘湘杰、高君亮、张国昀、芦特、丁蕾、赵艳华、梁桂琢

品种特性

灌木，株高可达 4.0m；少刺，2 年生枝平均每 10cm 枝段棘刺数 2-3 个；果实呈红色，近圆形，7 月底成熟；平均百果重 27.0g，果柄长 2.0-3.0mm。果实 Ve 含量 2.5mg/100g，Vc 含量 388.65mg/100g，总黄酮 92.8mg/100g，叶片总黄酮达 1820.9mg/100g。5 年进入盛果期，盛果期平均单株产量 3.0kg 以上。

主要用途

生态树种与经济林树种兼用。

栽培技术要点

选择 2 年生嫩枝扦插苗，在苗木萌动前 1-2 周，顶浆栽植；选择 2m×3m 或 1.5m×3m，机械管理的地块可选择 2m×4m 或 2m×5m 定植，雌雄配置比 8:1。

适宜种植范围

内蒙古、辽宁等沙棘适宜栽培区。

21. ‘中棘 3 号’沙棘

树种：沙棘

学名：*Hippophae rhamnoides*×*H.subspsinensis* ‘Zhongji 3’

类别：品种

通过类别：审定

编号：国 S-SV-HR-021-2021

申请人：中国林业科学研究院林业研究所

选育人：张建国、段爱国、罗红梅、孙广树、乌志颜、李健雄、何彩云、周 闯、刘湘杰
高君亮、张国昀、郎立刚、魏玉燕

品种特性

灌木，株高可达 4.0m；少刺，2 年生枝平均每 10cm 枝段棘刺数少于 4 个；果实成熟期 8 月初，果实黄色，近圆形；平均百果重 38g。果实 Ve 含量 1.17mg/100g，Vc 含量 430.10mg/100g，总黄酮含量 35.54mg/100g，叶片总黄酮含量达 298.6mg/100g。5 年进入盛果期，盛果期平均单株产量 3.0kg 以上。

主要用途

生态树种与经济林树种兼用。

栽培技术要点

选择 2 年生嫩枝扦插苗，在苗木萌动前 1-2 周，顶浆栽植；选择 2m×3m 或 1.5m×3m，机械管理的地块可选择 2m×4m 或 2m×5m 定植，雌雄配置比 8:1。

适宜种植范围

内蒙古、辽宁等沙棘适宜栽培区。

22. ‘中棘 4 号’沙棘

树种：沙棘

学名：*Hippophae rhamnoides*×*H.subspsinensis* ‘Zhongji 4’

类别：品种

通过类别：审定

编号：国 S-SV-HR-022-2021

申请人：中国林业科学研究院林业研究所

选育人：段爱国、张建国、罗红梅、孙广树、乌志颜、李健雄、何彩云、周 闯、刘湘杰
高君亮、张国昀、芦 特、丁 蕾

品种特性

灌木，株高可达 4.5m；少刺，2 年生枝平均每 10cm 枝段棘刺数 2-3 个；果实成熟期 7 月底，果实黄色，近圆形；平均百果重可达 36.6g，果实 Ve 含量 2.1mg/100g，Vc 含量 348mg/100g，总黄酮含量 50.54mg/100g，叶片总黄酮含量达 408.1mg/100g。5 年进入盛果期，

盛果期平均单株产量 4.8kg 以上。

主要用途

生态树种与经济林树种兼用。

栽培技术要点

选择 2 年生嫩枝扦插苗，在苗木萌动前 1-2 周，顶浆栽植；株行距 2m×3m 或 1.5m×3m，机械管理的地块可选择株行距 2m×4m 或 2m×5m 定植，雌雄配置比 8:1。

适宜种植范围

内蒙古、辽宁等沙棘适宜栽培区。

National list of genetically improved tree varieties in 2021

Certified Varieties

1. Senhai 2

Species: *Populus* sp.

Scientific name: *Populus* × ‘Senhai 2’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-PS-001-2021

Applicants: Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Hu Jianjun, Zhao Zicheng, Qin Peijun, Zeng Qingyin, Su Xuehui, Wang Lijuan, Li Zhengang, Feng Changhong, Zhang Xuelong, Ba Wei, Yue Zhiqiang, Xiao Bingshen, Huang Aiju, Li Shumei, Lu Mengzhu, Li Ling, An Xuehui, Han Yifan.

Characteristics:

Male, triploid, straight and round trunk, moderate crown, smooth bark bluish gray. The average annual growth of diameter at breast height (DBH) and height were 2.77 cm and 1.97 m of 7-year-old trees in Beijing, respectively. The volume of timber per plant was 0.1520 m³, which was 11.0% and 11.16% higher than the control varieties ‘108’ and ‘Chuangxin’, respectively. The basic wood density of 11-year-old trees was 0.349 g/cm³, the fiber length was 1431.57 μm, the fiber width was 27.10 μm.

Main use:

Timber tree.

Key points of cultivate techniques:

Vigorous saplings without disease and insect were selected for planting, Saplings with roots should be in size of DBH above 2.0 cm and height above 3.5 m; Trunks for direct planting in size of DBH above 2.0 cm and height above 3.5 m; Truncated trunks in size of DBH above 2.0 cm and height above 3.5 m; Saplings treated with at least 2-day water-soaking before planting at a depth of 50-60 cm and a stock-density of 300-1250 plants/hm². Dwarf crop can be inter-cropped 1-3 years after planting.

Suitable areas for planting:

Areas suitable for growing poplar, such as Hebei, Henan and Beijing.

2. Zhonghuai 1

Species: *Populus deltoides*

Scientific name: *Populus deltoides* ‘Zhonghuai 1’

Type of material: variety

Category of certification: Certified

Registration No.: Guo S-SV-PD-002-2021

Applicants: Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Hu Jianjun, Zhao Zicheng, Zeng Qingyin, Li Jinhua, Zhao Shutang, Wang Liuqiang, Su Xuehui, Li Zhengang, Li Xilin, Wang Zhibin, Liu Bin, Jia Jianxue, Li Ling, Lu Mengzhu, Han Yifan.

Characteristics:

Male, triploid. straight and round trunk, grayish brown bark with longitudinal cracks. In Beijing, the average annual growth of DBH and height were respectively 2.76 cm and 2.17 m of 7-year-old trees, with an individual tree volume of 0.1627 m³, 18.8% and 19.0% higher than the control varieties '108' and 'Chuangxin', respectively. The basic wood density of the 11-year-old tree was 0.351 g/cm³, the fiber length was 1453.19 μm, the fiber width was 25.75 μm. The contents of lignin, holocellulose, α-cellulose and 1% NaOH extractions were 18.01%, 78.61%, 45.66% and 16.24%, respectively. The lignin content decreased by 6.34-8.44% and the hemicellulose content increased by 1.75-3.89%, compared with the control varieties '108' and 'Zhonglin 46'.

Main use:

Timber tree.

Key points of cultivate techniques:

Vigorous saplings without disease and insect were selected to for planting. Saplings with roots should be in size of DBH above 2.0 cm and height above 3.5 m; Trunks for direct planting in size of DBH above 2.0 cm and height above 3.5m; Truncated trunks in size of DBH above 2.0 cm and the height above 3.5 m; Saplings treated with at least 2-day water-soaking before planting at a depth of 50-60 cm and a stock-density of 300-1250 plants/hm². Dwarf crop can be inter-cropped 1-3 years after planting.

Suitable areas for planting:

Areas suitable for growing poplar, such as Hebei, Henan and Beijing.

3. Ruiduhongmei

Species: *Vitis vinifera*

Scientific name: *Vitis vinifera* 'Ruidu Hongmei'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-VV-003-2021

Applicants: Beijing Academy of Forestry and Pomology Science

Breeders: Xu Haiying, Sun Lei, Yan Ailing, Zhang Guojun, Tang Meiling, Lei Yan, Wang Huiling, Wang Xiaoyue, Ren Jiancheng, Wang Jianping, Liu Wanhao, Liu Xinming, Chen Ting.

Characteristics:

Early ripening. Conical cluster shape, with bunch wings, the average cluster weight is 430.0 g.

Elliptic or round berry shape, average and maximum berry weight are 6.6 g and 9 g, respectively. The skin color is purplish red when ripening, the fruit has Muscat flavor with the soluble solid contents of 18.2%. In Beijing, the time of bud burst is mid-late April, flowering at late May, fruit-ripening in mid or late August, with a growing period of about 120 days. The yield is about 1500 kg/mu at full productive stage.

Main use:

Table grape.

Key points of viticulture techniques:

Fan-shape and spur to medium pruned are recommended for vertical trellis system, vertical trunk and spur prune are suggested for horizontal trellis system. The fruiting zone should be raised to improve air circulation to reduce pests and diseases. The cluster should be bagged and thinned to 70-90 berries. Phosphorus and potassium fertilizer should be applied after veraison to inhibit white rot and ripe rot.

Suitable areas for planting:

It could be planted in the uncovered field in Beijing, Shandong province, and in rain-shelter facilities in Fujian province.

4. Ruidukemei

Species: *Vitis vinifera*

Scientific name: *Vitis vinifera* ‘Ruidu Kemei’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-VV-004-2021

Applicants: Beijing Academy of Forestry and Pomology Science

Breeders: Xu Haiying, Sun Lei, Yan Ailing, Zhang Guojun, Tang Meiling, Lei Yan, Wang Huiling, Wang Xiaoyue, Ren Jiancheng, Wang Jianping, Liu Wanhao, Liu Xinming, Chen Ting.

Characteristics:

Medium ripening. Conical cluster shape, with bunch wings, the average cluster weight is 502.5 g. the bunch density is medium to loose. Elliptic or oval berry shape, average and maximum berry weight are 7.2 g and 9 g, respectively. The skin color is green yellow when ripening, the fruit is sweet and has strong Muscat flavor, with the soluble solid contents of 17.2% and titratable acid of 0.5%. In Beijing, the time of bud burst is mid-late April, flowering at late May, fruit-ripening in late August, with a growing period of about 130 days. The yield is about 1500 kg/mu at full productive stage.

Main use:

Table grape.

Key points of viticulture techniques:

Fan-shape and spur to medium pruned are recommended for vertical trellis system, vertical trunk

and spur prune are suggested for horizontal trellis system. The fruiting zone should be raised to improve air circulation to reduce pests and diseases. The cluster should be bagged and thinned to 70-90 berries. Phosphorus and potassium fertilizer should be applied after veraison to inhibit white rot and ripe rot.

Suitable areas for planting:

It could be planted in the uncovered field in Beijing, Shandong province, and in rain-shelter facilities in Fujian province.

5. Jingshuhong

Species: *Castanea mollissima*

Scientific name: *Castanea mollissima* ‘Jingshuhong’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CM-005-2021

Applicants: Beijing University of Agriculture

Breeders: Qin Ling, Cao Qingqin, Zhang Qing, Qin Jianguo, Lu Bin, Xing Yu, Wang Jinbao, Liang Yichun, Liu Jianling, Fang Kefeng.

Characteristics:

This variety is early ripening. Involucre is oval with an average weight of 49.1g, contains 2.3 nuts, and each nut is a weight of 8.2 g; nut shell is reddish brown, and nut production rate is 41.2%; water content in the kernel is 57.23%, starch content 38.15%, soluble sugar 20.41%, respectively; The endocarp is easy to peel off, and kernel flesh is yellow, with tender texture and sweet flavor. In Beijing, budding starts in mid-April, flowering in mid-June, ripening around August 23, and total fruit development period is about 75 days. The yield of full fruit period is 209.7 kg/mu.

Main use:

It can be fried, processed and used as breeding material.

Key points of cultivate techniques:

It's suitable for close planting. Varieties ‘Yanshanhongli’ and ‘Yanshanzaofeng’ are configured as pollinator tree. Suitable tree shapes are natural open-heart, and 6-9 parent branches should be retained per square meter of canopy projection area. In full fruiting period, pruning and thinning are combined. During growing period, control of red spider, peach moth and other pests need to be given attention. Because the harvest period is early and the daytime temperature is high on August, it is recommended to harvest chestnut in time. The burs should be removed from shells in time to prevent mildew.

Suitable areas for planting:

Beijing, Hebei province, Yunnan province and other chestnut suitable cultivation areas.

6. Jinhua 1

Species: *Carya illinoensis*

Scientific name: *Carya illinoensis* ‘Jinhua 1’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CI-006-2021

Applicants: Zhejiang Academy of Forestry

Breeders: Zhu Tangjun, Xi Xueliang, Peng Huazheng, Ye Hualin, Jin Qunying, Xu Wenrong, Li Yongrong, Wu Chaoqun, He Zhengkuan, Xie Xiaofu, Xu Mingquan, Cun Huaidi

Characteristics:

Large fruit, with a length of 40.87 mm, a diameter of 23.66 mm and a length/diameter ratio of 1.73 on average. Nuts long oval, with a blunt apex concave, and a round bottom; The average weight of individual fruits was 33.99 g, the average weight of individual nuts was 8.09 g, and the seed (wet seed) rate was 23.80%. Nut kernel rate is 45.49%, easy to separate kernel, kernel yellowish white, no astringency. During the peak period of fruiting, the average yield is up to 93.18 kg/mu, 53% higher than that of the control variety ‘Pawnee’. Trees sprout in mid-to-late March, flower buds stirring in mid-April, fast-growing period of fruits from July to August, and fruit harvest in mid-October.

Main use:

It can be used as fresh fruit or for processing.

Key points of cultivate techniques:

‘Shaoxing 1’, ‘ZL30’ and ‘Mohawk’ are good pollinizers for ‘Jinhua 1’. Cultivating should be done from December to March of the following year. The initial spacing is 4 m×4 m at planting, and stablized at 8 m×8 m in the later period. It can be inter-planted with dwarf plants of kiwi, camellia, peach, etc. During the growth period, short cut the shoots of the current year. Plants in the fruiting period are mainly pruned in winter, trying to retain the fruit-bearing branches in order to increase the number of fruiting sites. Pay attention to the management of fertilizer and water.

Suitable areas for planting:

Areas suitable for growing pecan trees such as Zhejiang, Jiangsu and Yunnan provinces.

7. Shaoxing 1

Species: *Carya illinoensis*

Scientific name: *Carya illinoensis* ‘Shaoxing 1’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CI-007-2021

Applicants: Zhejiang Academy of Forestry

Breeders: Zhu Tangjun, Xi Xueliang, Peng Huazheng, Ye Hualin, Jin Qunying, Xu Wenrong, Li

Yongrong, Wu Chaoqun, He Zhengkuan, Xie Xiaofu, Xu Mingquan, Cun Huaidi

Characteristics:

Small fruit, with a length of 32.6 mm, a diameter of 22.2 mm and a length/diameter ratio of 1.47 on average. Nuts long oval, with a smooth shell surface; The average weight of individual fruits was 25.87 g, the average weight of individual nuts was 6.32 g, and the seed (wet seed) rate was 24.43%. Nut kernel rate is 45.49%. During the peak period of fruiting, the average yield is up to 118.42 kg/mu, 94% higher than that of the control variety 'Pawnee'. Trees sprout in mid-to-late March, flower buds starts to grow in mid-April, fast-growing period of fruits from July to August, and fruit harvest in mid-October.

Main use:

It can be used as freshly served fruit or for processing.

Key points of cultivate techniques:

'Jinhua 1', 'ZL30' and 'Mohawk' are good pollinizers for 'Shaoxing 1'. Cultivating is done from December to March of the following year. The initial spacing is 4 m×4 m at planting, and stabilizes at 8 m×8 m in later period. It can be inter-planted with dwarf plants of kiwi, camellia, peach, etc. During the growth period, short cut the shoots of the current year. Plants in fruiting period are mainly pruned in winter, trying to retain the fruit-bearing branches in order to increase the number of fruiting sites. Pay attention to the management of fertilizer and water.

Suitable areas for planting:

Areas suitable for growing pecan trees such as Zhejiang, Jiangsu and Yunnan provinces.

8. Qiumi

Species: *Ziziphus jujuba*

Scientific name: *Ziziphus jujuba* 'Qiumi'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-ZJ-008-2021

Applicants: Hebei Agricultural University

Breeders: Mao Yongmin, Jiang Chuang, Shen Lianying, Wang Xiaoling, Mao Lihui, Lu Jun, Qiu Xiaojing, Wu Fengxia, Chen Yuemei, Pan Xiaofei, Shao Xiaoyong, Cao Fang, Liu Shuyi, Li Zhihui, Li Xumao

Characteristics:

Moderate growth vigor, thorns are underdeveloped. The fruit-bearing branches straight, with a length of 22 cm on average. Fruits oval, with a blunt orange-red and smooth peel, and a flat top. The average weight of individual fruits was 10.83 g. The flesh of fresh fruit is white and green, with a soluble solid content of 33.5%, a titratable acid content of 1.63%, a edible rate of the fruits of 96.5%, and a sugar content of dried dates of 76.94%. In Daming county of Hebei province, trees sprout in early April, blooms in early June, fruits ripens in early and mid-September, with the

fruit development period of 90 days. During the peak period of fruiting, and the average yield is up to 1007.9 kg/mu.

Main use:

It can be used as freshly served fruit or processed for dried dates.

Key points of cultivate techniques:

Vigorous plants with a ground diameter of 1.2 cm or more were selected and planted at a spacing of 1-2 m×2-4 m. After planting, sufficient irrigation applied thoroughly, and cover both sides of the planting row with black plastic film or gardening ground cloth with a width of 0.8-1 m. Trees are kept in form of sparse layers or open-hearted, to enlarge the quantity of flowers, increase the rate of natural fruit setting, and girdling is not required. It mainly controls the common diseases and pests such as *Apolygus lucorum*, spider mite, jujube rust.

Suitable areas for planting:

Areas suitable for growing jujube trees such as Hebei province, Aksu and Korla in Xinjiang province.

9. Jinfu 2

Species: *Malus pumila*

Scientific name: *Malus pumila* ‘Jinfu 2’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MP-009-2021

Applicants: Shanxi Agricultural University

Breeders: Niu Zimian, Yu Lu, Li Zhiqiang, Lian Guowu, Xie Peng, Lin Lu, Li Quan, Wang Hongning, Cheng Xiaoting, Lu Zhijun, He Jiang, Hao Yanyan, He Yongbo, Zhang Chao, Sun Junbao, Yang Peiren

Characteristics:

A bud mutation variety developed from variety ‘Gongtengfushi’. The fruit is dark red with bright color, and the coloring area is more than 95%. The average soluble solid content of the fruit is 16.2%, with a potassium content of 1380 mg/kg, calcium content of 79.8 mg/kg, magnesium content of 68.8 mg/kg, zinc content of 0.134 mg/kg, Iron content of 0.858 mg/kg, total sugar content of 13.75 g/100g, Vc content of 3.18 g/100g. It can withstand extreme low temperature of -25°C in winter. During the peak fruiting period, the average yield is up to 2954-3268 kg/mu in Linyi County, Shanxi Province.

Main use:

It can be used as freshly served fruit and processed for juice or dried dates.

Key points of cultivate techniques:

For arborized orchard the spacing is 5×6 m or 6×8 m. The trees are pruned into open-central form, and the tree of full fruiting period retains 3-4 main branches to allow the development of long

drooping fruit-bearing branches. The spacing of dwarf orchard is 4 m×1-1.5 m. The trees pruned into high spindle form, retaining 25-40 fruit-bearing branches for each full fruiting tree. The average number of retained fruits is 10,500-12,000 fruits/667m², and fruit thinning will be completed before mid-May.

Suitable areas for planting:

Areas suitable for growing apple trees such as Shanxi, Hebei and Henan provinces.

10. Ruixianghong

Species: *Malus domestica*

Scientific name: *Malus domestica* ‘Ruixianghong’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MD-010-2021

Applicants: Northwest Agriculture and Forestry University

Breeders: Zhao Zhengyang, Yang Yazhou, Wang Leicun, Gao Hua, Liu Zhenzhong, Wu Yueni, Liang Jun, Zhang Bohu, Jing Shujuan, Sun Lulong, Chang Wenxuan, Xu Jutao, Sun Jianchun, Chai Xiangrang, Duan Baozhen

Characteristics:

A late-maturing hybrid variety selected from the cross of ‘Qinfu 1’ (female) and ‘Fenhongnvshi’ (male). Tree are erect and moderate in growth vigor. The fruit is medium in size, with an average fruit weight of 197 g; The fruit is long and cylindrical, with a fruit shape index of 0.97; The fruit is dark red with yellowish white flesh. The fruit hardness is 8.6 kg/cm², with the soluble solid content of 16.9%, total sugar content of 14.59 g/100g, titratable acid content of 0.18%, and Vc content of 1.85mg/100g. The maturity period is in late October. During the peak fruiting period, the average yield is up to 2579kg/mu in Baishui county, Shaanxi province.

Main use:

It can be used as freshly served fruit.

Key points of cultivate techniques:

It is cultivated with dwarfing self root-stocks or intermediate root-stocks such as M26, M9-T337, etc., at a spacing of 1.5-2 m×3.5-4 m. ‘Changfu 2’, ‘Xinhongxing’, ‘Gala’, ‘Ruiyang’, etc. used as pollinator varieties, and configured at a ratio of 15-20%. The tree shape is slender spindle or high spindle shape. The height of the tree is controlled at 3.5-4.0 m, and 20-30 fruit-bearing branches are retained on the main stem. Winter pruning focused on branch thinning. Pay attention to the prevention and control of aphids, Tortricidae, spider mites, *Grapholitha inopinata*, early defoliation disease, powdery mildew and other pests.

Suitable areas for planting:

Areas suitable for growing apple trees such as Shaanxi, Shanxi and Gansu provinces.

11. Ezhi 8

Species: *Olea europaea*

Scientific name: *Olea europaea* 'Ezhi 8'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-OE-011-2021

Applicants: Hubei Academy of Forestry

Breeders: Deng Xianzhen, Jiang Dezhi, Jiang Chengying, Wu Xianwei, Ning Delu, Zhao Haiyun, Huang Faxin, Cheng Junyong, Chen Zhuoliang, Wang Ruiwen, Li Yongjie, Huang Guozhen, Wu Wenjun, Zheng Jingjin

Characteristics:

Crown round head shape, low crown body. The fruit is long oval, rose red, with little juice. The pit is obovate, brown, with groove stripes. The single fruit weight is 4.26 g with a fruit shape index of 1.49; the fresh fruit oil content is 17-21%, containing 70.6%-73.5% oleic acid, 6.39%-9.1% linoleic acid, 15.7%-17.3% palmitic acid, 1.13%-2.4% stearic acid. During the peak fruiting period, the yield per plant is 9.6 kg-27.6 kg.

Main use:

Edible oil species; fresh fruit can be processed into candied fruit and canned food.

Key points of cultivate techniques:

Above 2-year-old cutting-propagated or grafted stocks are used for planting at a spacing of 4×5 m to 5×6 m. Trees are pruned to shapes of open heart. Pay attention to prevention and control of anthracnose in areas with high humidity through spraying 0.3-0.5 Baume degree lime sulfur mixture once throughout the orchards after harvest. In spring, 2-3 times of spray of 1:2:200 Bordeaux mixture applied during the period from the growth of new shoots to flowering and spray of 40% carbendazim diluted to 500-800 times applied for effective control of the spread of the disease.

Suitable areas for planting:

Areas suitable for growing *Olea europaea* such as Hubei, Gansu and Yunnan.

12. Sangzi 2

Species: *Morus alba*

Scientific name: *Morus alba* 'Sangzi 2'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MA-012-2021

Applicants: Sericulture Research Institute, Anhui Academy of Agricultural Sciences

Breeders: Deng Yongjin, Yu Jie, Sun Mingna, Han Zhihong, Zhang Shoufu, Gao Junlan, Ding Tianlong, Yang Lu, Liu Zhihong, Qian Qinchun, Pan Libin, Zhang Zewei, Zhao Lianying, Pan

Tingdang, Liu Keji, Wang Zhaohui, Zhang Huimin, Wang Zhaofeng, Cao Ruomei, Pan Zimei, Liu Guofeng, Zhu Yan, Zhu Jingjuan, Zhang Yuan

Characteristics:

Radiation with ion beam was conducted for mutation induction since 2009, and a mutant-‘Sangzi 2’ was obtained in 2012. The mulberry fruit is in purplish brown, with fruit length of 2-4 cm and extremely short stalk seeded. The variety bear fruits twice a year, with the largest yield in spring, and the autumn yield is about 15% of spring. The weight of single fruit is 3-5 g, with fruit protein content of 2.29 g/100 g, anthocyanin content of 0.344%, total sugar content of 8.7%, total acid content of 1.79 g/kg, soluble solids content of 13.7% and juice yield of 63.9%.The mulberry fruit begins to ripen in early May, with full ripen in mid-to-late May, and ends in early June. The harvesting time can last for one month, and the annual fruit yield can reach 3000 kg/mu.

Main use:

Used as fresh fruit or processed.

Key points of cultivate techniques:

The trees are planted at a spacing of 2 m×3 m. Spray thiophanate-methyl, boscalid and other agents after germination in early and mid-March each year to prevent and control diseases. Pruning after the end of fruiting period in early June, and maintain the tree in a shape of hollow and outer-side heart with a three-level structure of main trunk, main branches and fruiting branches. Ventilating, transmitting light and removing diseased fruits in time.

Suitable areas for planting:

Areas suitable for growing *Morus alba* such as Anhui, Henan and Xinjiang.

13. Sangzi 3

Species: *Morus alba*

Scientific name: *Morus alba* ‘Sangzi 3’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-MA-013-2021

Applicants: Sericulture Research Institute, Anhui Provincial Academy of Agricultural Sciences

Breeders: Deng Yongjin, Yu Jie, Sun Mingna, Han Zhihong, Liu Jian, Pan Tingdang, Wang Rui, Yang Lu, Liu Heyang, Li Bing, Qian Qinchun, Pan Libin, Zhang Zewei, Wang Zhaohui, Liu Guofeng, Zhang Huimin, Wang Zhaofeng, Chen Yanying, Cao Ruomei, Ren Xiaoyuan, Yang Zhifang, Tao Xijun, Chen Huaiyu

Characteristics:

‘Sangzi 3’ is a hybrid variety selected from the offspring of ‘Zhenzhubai’ (female) and ‘Dabaizhenzhu’ (male). The fruit is milky white, with total sugar content of 15.9%, total acid content of 1.55 g/kg, anthocyanin content of 0.0105%, protein content of 1.30 g/100 g, juice yield of 73.9% and soluble solid content of 24.2%. The fruit harvesting period can last for one month,

and it begins to ripen in early May, full ripen in mid-to-late May and ends in early June. Mulberry fruits can be obtained 3 years after planting, with annual yield of 360.65 kg/mu.

Main use:

Used as fresh fruit or processed.

Key points of cultivate techniques:

Well-developed root systems and robust grafted stocks are used for planting in early December to next early March at a spacing of 2 m×3 m. Spray thiophanate-methyl, boscalid and other agents after germination in early and mid-March each year to prevent and control diseases. Pruning after the end of fruiting period in early June, and maintaining the tree in a shape of hollow and outer-side heart with a three-level structure of main trunk, main branch and fruiting branch. Ventilating, transmitting light and removing diseased fruits in time.

Suitable areas for planting:

Areas suitable for growing *Morus alba* such as Anhui, Henan and Xinjiang.

14. Jinhua

Species: *Prunus persica*

Scientific name: *Prunus persica* ‘Jinhua’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-PP-014-2021

Applicants: Shanghai Academy of Agricultural Sciences

Breeders: Ye Zhengwen, Su Mingshen, Du Jihong, Li Xiongwei, Zhou Huijuan, Zhang Xianan, Zhang Minghao

Characteristics:

Golden, hard and soluble flesh. Fruit is later ripening than ‘Jinyuan’ by 20-25 day. The average single fruit weight is 238-263 g, with a soluble solid content of 13.8%, titratable acid content of 0.36%, sucrose content of 45.5 mg/g, fructose content of 24.0 mg/g, glucose content of 21.5 mg/g, sorbitol content of 9.0 mg/g, malic acid content of 2.8 mg/g, quinic acid content of 2.8 mg/g, citric acid content of 2.0 mg/g, Vc content of 11.0 mg/100 g. In Shanghai area, centralized harvest fruits in early September. The tree reaches peak fruiting period 6 years later after planting, and the fruit yield of 8-year-old plants can reach 1989 kg/mu.

Main use:

Used as fresh fruit.

Key points of cultivate techniques:

Suitable site for orchard establishment is where with deep soil and groundwater level below 1 m, no need to configure pollinator trees. Fertilization once in early July and early August respectively, with quick-acting nitrogen, phosphorus and potassium compound fertilizer as the main fertilizers. Pay attention to timely control of peach puncture, peach puncture brown rot, green peach aphid,

peach borer, peach fruit borer, peach leaf miner and other pests and diseases.

Suitable areas for planting:

Areas suitable for growing *Prunus persica* such as Shanghai and Shandong.

15. Ruipan 21

Species: *Prunus persica*

Scientific name: *Prunus persica* ‘Ruipan 21’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-PP-015-2021

Applicants: Beijing Academy of Forestry and Pomology Sciences

Breeders: Guo Jiying, Jiang Quan, Zhao Jianbo, Ren Fei, Zhang Yu, Wang Shangde, Liu Xin, Wang Zhen, Li Xinyue, Guo Jianqiang

Characteristics:

A later-ripening hybrid variety of ‘Huanxiang’ (female) by ‘Ruipan 4’ (male). The fruit is flat, with an average single fruit weight 235.6 g, yellowish white flesh, cling stone. The soluble solid content of fruit is 13.5%, with the total sugar content of 9.74%, titratable acid content of 0.19%, Vc content of 8.72 g/100 g. In Beijing area, buds sprout in late March, bloom in mid-April, and fruits mature in late September. Fruit development period extends for 166 days and the growth period is about 208 days. The fruit yield can reach more than 2200 kg/mu in peak period.

Main use:

Used as fresh fruit.

Key points of cultivate techniques:

Saplings are planted during the budding period in spring, with a form of ‘Y’ shape, and a spacing of 2.5-3 m×5-6 m. After planting, trees are pruned to shapes of open center and twist branches in time, to allow trees developed into an open-form. Appropriate number of fruits is retained based on the expected yield. Control of brown rot, borer and fruit fly is intensified in later period of growth.

Suitable areas for planting:

Areas suitable for growing *Prunus persica* such as Beijing, Hebei and Shandong.

16. Yuntian 1

Species: *Dendrocalamus brandisii*

Scientific name: *Dendrocalamus brandisii* ‘Yuntian 1’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-DB-016-2021

Applicants: Southwest Forestry University

Breeders: Hui Chaomao, Liu Weiyi, Guan Fengying, Huang Dayong, Zhang Xi, Sun Maosheng, Shi Zhengjun, Shi Ming, Lu Dingwei, Shen Jiaying, Zou Xueming, Ji Kai

Characteristics:

The height of the culm is 15-25 m, the diameter is 12-18 cm, and the length of the Internode is 30-40 cm. The culm type is straight, the height under the branch is more than 3 m, the base of the culm is erect, and the base of the young culm has obvious striped gray-white villi. The bamboo shoots began to shoot as early as early June, with a crude protein content of 2.10%, a fresh amino acid content of 0.476%, a sweet amino acid content of 0.145%, an aromatic amino acid content of 0.031% and a crude fat content of 1.94%. The average fresh weight of single bamboo shoot is 3.3 kg, and the bamboo shoot yield can reach 16,335 kg/hm².

Main use:

Used for bamboo shoot production.

Key points of cultivate techniques:

The initial planting density is 12-22 plants/mu, site preparation in points or blocks, with planting holes in size of 60 cm×60 cm×50 cm, it is advisable to transplant with mud-soaked roots in rainy season; agricultural fertilizer or bio-organic fertilizer applied after closure of the forests at a proper time with an appropriate amount, pay attention to shoot-thinning for bamboo development and retaining shoots to allow grown-up, keep 5-7 culms in each clump, cut off the culms and remove the minor ones, and the culms truncated at a height 3-4m. Strengthen tending and pest control.

Suitable areas for planting:

Areas suitable for growing bamboo such as Southern Yunnan, Guangxi, Guizhou.

17. Huajin

Species: *Camellia oleifera*

Scientific name: *Camellia oleifera* ‘Huajin’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CO-017-2021

Applicants: Central South University of Forestry and Technology

Breeders: Tan Xiaofeng, Yuan Deyi, Yuan Jun, Li Jianan, Zou Feng, Li Ze, Liu Lei, Huang Dong, Cheng Junyong, Huang Yongfang, Yu Yaping

Characteristics:

Strong growth vigor with spindle-shaped crown; initial flowering in mid-late October and peaked in early November; the fruit is cyan and oval; the number of seeds is 6-10; the rate of fresh seeds is 36.38%; the weight of 100 seeds is 220.82 g; the oil content of dry seeds is 46.0%; the content of oleic acid is 81.65%; the content of linoleic acid is 9.22%; the content of palmitic acid is 6.14%; and the content of stearic acid is 2.20%. The average oil production in the peak period can reach up to 930 kg/hm².

Main use:

It is used as edible oil species.

Key points of cultivate techniques:

3-year-old saplings raised in light-medium are used for planting, at a stocking density of 60-82 plants/mu; The pollinator variety is ‘Huaxin’ or ‘Changlin 53’; Dense branches properly thinned, and fruit appropriately thinned in peak period. Fertilizers applied at proper times to ensure the nutrition supply. Fruits ripen in mid to late October, and fruits harvested when starts cracking.

Suitable areas for planting:

Areas suitable for growing *Camellia oleifera* in Hunan, Hubei, Henan, Guangdong, Guangxi, Guizhou, Jiangxi and other suitable cultivation areas.

18. Huashuo

Species: *Camellia oleifera*

Scientific name: *Camellia oleifera* ‘Huashuo’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CO-018-2021

Applicants: Central South University of Forestry and Technology

Breeders: Tan Xiaofeng, Yuan Deyi, Yuan Jun, Li Jianan, Zou Feng, Li Ze, Liu Lei, Huang Dong, Cheng Junyong, Huang Yongfang, Yu Yaping

Characteristics:

Crown in round head shape and compact tree form; fruit is yellow when ripening, with 12-18 seeds, 42.36% seed rate of fresh fruit, 100-seed weight 250.0 g, 41.71% oil content of dry seed, 89.89% oleic acid content, 7.77% linoleic acid content, and 1023 kg/hm² average oil yield in full season.

Main use:

It is used as edible oil species.

Key points of cultivate techniques:

3-year-old saplings raised in light-medium are used for planting at a stocking density of 60-82 plants/mu; the pollinator variety is ‘Hengdongdatao 2’; branches and leaves are sparse; young trees should be properly shaped with no excessive pruning, and fruits should be properly thinned in the peak fruiting period; fertilize at the right time to ensure the nutrient supply. From late October to early November, the fruits and seeds ripe without cracking and it is the right time to harvest.

Suitable areas for planting:

Hunan, Hubei, Henan, Guangdong, Guangxi, Guizhou, Jiangxi and other suitable cultivation areas.

19. Huaxin

Species: *Camellia oleifera*

Scientific name: *Camellia oleifera* ‘Huaxin’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-CO-019-2021

Applicants: Central South University of Forestry and Technology

Breeders: Tan Xiaofeng, Yuan Deyi, Yuan Jun, Li Jianan, Zou Feng, Li Ze, Liu Lei, Huang Dong, Cheng Junyong, Huang Yongfang, Yu Yaping

Characteristics:

Strong growth vigor with natural round-headed crown; Fruit oblate, greenish yellow, 7-15 seeds, fresh seed rate 52.56%, 100 seed weight 310.37g, dry seed oil rate 39.97%; The content of oleic acid 88.90%, linoleic acid 8.38%, linolenic acid 0.06%, stearic acid 1.46% in peak period, the average oil yield can reach 900 kg/hm².

Main use:

It is used as edible oil species.

Key points of cultivate techniques:

3-year-old saplings raised in light-medium are used for planting, at a stocking density of 60-82 plants/mu; The pollinator variety is ‘Huajin’ or ‘LXC15’; Branches and leaves are sparse, young trees should be properly shaped with no excessive pruning, and fruits should be properly thinned in the peak fruiting period; Fertilize at the right time to ensure the nutrition supply. In late October the fruits and seeds ripe, and fruits harvested when starts cracking .

Suitable areas for planting:

Hunan, Hubei, Henan, Guangdong, Guangxi, Guizhou, Jiangxi and other areas suitable for growing *Camellia oleifera*.

20. Hongji 1

Species: *Hippohae* sp.

Scientific name: *Hippohae rhamnoides* × *H. subspsinensis* ‘Hongji 1’

Type of material: Clone

Category of certification: Certified

Registration No.: Guo S-SV-HR-020-2021

Applicants: Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Zhang Jianguo, Duan Aiguo, Luo Hongmei, Sun Guangshu, Wu Zhiyan, Li Jianxiong, He Caiyun, Zhou Chuang, Liu Xiangjie, Gao Junliang, Zhang Guoyun, Lu Te, Ding Lei, Zhao Yanhua and Liang Guizhuo.

Characteristics:

Shrub, up to 4.0 m in height; Few thorns, 2-3 thorns per 10 cm branch segment of 2-year-old

branches; Fruit is red, nearly round, ripening at the end of July; The average fruit weight was 27.0 g, the stem length was 2.0-3.0 mm, the Ve content was 2.5 mg/100 g, the Vc content was 388.65 mg/100 g, the total flavonoids were 92.8 mg/100 g, the total flavonoids in leaves reached 1820.9 mg/100 g, and the average yield per plant was more than 3.0 kg in full fruit stage.

Main use:

Both ecological tree species and economic forest tree species.

Key points of cultivate techniques:

2-year-old plants propagated by shoot cuttings are used for planting 1-2 weeks before sprouting, with mud-soaking of the roots to prevent water loss; Planting spacing is 2 m×3 m or 1.5 m×3 m, and 2 m×4 m or 2 m×5 m for sites where mechanical operation can be used, and the ratio of female to male is 8:1.

Suitable areas for planting:

Inner Mongolia, Liaoning and other areas suitable for growing sea buckthorn.

21. Zhongji 3

Species: *Hippophae* sp.

Scientific name: *Hippophae rhamnoides*×*H.subspsinensis* ‘Zhongji 3’

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-HR-021-2021

Applicants: Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Zhang Jianguo, Duan Aiguo, Luo Hongmei, Sun Guangshu, Wu Zhiyan, Li Jianxiong, He Caiyun, Zhou Chuang, Liu Xiangjie, Gao Junliang, Zhang Guoyun, Lang Ligang, Wei Yuyan

Characteristics:

Shrub, with a height up to 4.0 m; Few thorns, the average number of thorns per 10 cm of 2-year-old branch is less than 4; The fruit ripens in early August, fruit yellow and nearly globose; The average weight of 100 fruits is 38 g, with a Ve content of 1.17 mg/100 g, Vc content of 430.10mg/100g, and a total flavonoids content of 35.54 mg/100 g. The total leaf flavonoids content is 298.6 mg/100g. The peak fruiting period starts from 5 years after planting, with an average yield of individual trees of more than 3.0 kg.

Main use:

It is used as an ecological tree or economic tree or both.

Key points of cultivate techniques:

2-year-old plants propagated by shoot cuttings are used for planting 1-2 weeks before sprouting, with mud-soaking of the roots to prevent water loss; Planting spacing is 2 m×3 m or 1.5 m×3 m, and 2 m×4 m or 2 m×5 m for sites where mechanical operation can be used, and the ratio of female to male is 8:1.

Suitable areas for planting:

Areas suitable for growing *Hippophae rhamnoides* such as Inner Mongolia, Liaoning etc.

22. Zhongji 4

Species: *Hippophae* sp.

Scientific name: *Hippophae rhamnoides* × *H. subsinensis* 'Zhongji 4'

Type of material: Variety

Category of certification: Certified

Registration No.: Guo S-SV-HR-022-2021

Applicants: Research Institute of Forestry, Chinese Academy of Forestry

Breeders: Duan Aiguo, Zhang Jianguo, Luo Hongmei, Sun Guangshu, Wu Zhiyan, Li Jianxiong, He Caiyun, Zhou Chuang, Liu Xiangjie, Gao Junliang, Zhang Guoyun, Lu Te, Ding Lei

Characteristics:

Shrubs, plant height up to 4.5 m; Few thorns, 2-year-old branches with an average of 2-3 thorns per 10 cm branch segment; Fruit ripens in the end of July, yellow and nearly globose; the average weight of 100 fruits is 36.6 g, with Ve content of 2.1 mg/100 g, Vc content of 348 mg/100 g, total flavonoids content of 50.54 mg/100 g, and total flavonoids content of 408.1 mg/100 g in leaves. The peak fruiting period starts from 5 years after planting, with an average yield of more than 4.8 kg/plant.

Main use:

It is used as an ecological tree or economic tree or both.

Key points of cultivate techniques:

2-year-old plants propagated by shoot cuttings are used for planting 1-2 weeks before sprouting, with mud-soaking of the roots to prevent water loss; Planting spacing is 2 m×3 m or 1.5 m×3 m, and 2 m×4 m or 2 m×5 m for sites where mechanical operation can be used, and the ratio of female to male is 8:1.

Suitable areas for planting:

Areas suitable for growing *Hippophae rhamnoides* such as Inner Mongolia, Liaoning etc.