

不同产地核桃隔膜、种皮及壳中黄酮含量的比较

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摘 要:采用超声提取法提取不同产地核桃不同部位总黄酮,以木犀草苷为对照品,采用 HPLC 法和比色法测定提取物中木犀草苷和总黄酮含量,比较不同产地核桃隔膜、种皮及壳中木犀草苷及总黄酮的含量差异,为药用核桃的道地性及药用部位提供依据。结果表明:不同产地核桃中木犀草苷含量为长治>和田>阿克苏>塔里木>大理>秦岭,总黄酮含量为大理>秦岭>和田>塔里木>长治>阿克苏。核桃不同组织部位中木犀草苷的分布为种皮>壳>隔膜,不同组织部位中总黄酮的分布为壳>种皮>隔膜。表明,不同产地核桃的黄酮成分含量有差别,山西核桃木犀草苷含量最高,但总黄酮含量最低;云南核桃总黄酮含量最高,但木犀草苷含量很低。核桃种皮中木犀草苷及总黄酮含量要高于隔膜中的,核桃种皮可能和隔膜有相似的药理活性,同样具有很好的药用价值。

关键词:核桃壳;核桃隔膜;核桃种皮;木犀草苷;黄酮

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核桃的食用及药用价值很高,中医学普遍认为核桃性温、味甘、无毒,有健胃、补血、润肺、养神等功效^[1]。核

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桃隔膜作为新疆维吾尔族特色药物具有补肾壮阳、固涩生津的作用^[2],王国军等^[3]采用优化后超声工艺提取核桃隔膜总黄酮,并证实核桃隔膜总黄酮对雄性昆明小鼠的肾虚有很好的改善作用。余旭亚等^[4]比较了核桃仁与核桃油中总黄酮的含量,核桃仁、核桃油及核桃粕中总黄酮含量分别为 0.47%、0.27%、0.20%。荣瑞芬等^[5]测定了每 100 g 核桃仁皮、去皮核桃仁中分别含有 1.038、0.083 g 总酚,0.744、0.419 g 总黄酮。张春梅

Effect of Soil Ammonia Volatilization of Different Nitrogen Treatments on Seed Germination and Early Seedling Growth of the Radish

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Abstract: Radish was used as test material, in the case of urea fertilizer, soil ammonia volatilization and the effect of the ammonia toxicity on seed germination percentage and early seedling growth with the application of urease inhibitors NBPT, PPD and HQ were studied, to provide reference for nitrogen use efficiency for field. The results showed that application of urease inhibitors significantly reduced soil ammonia volatilization, promoted seed germination and early seedling growth of radish. NBPT was the most effective inhibitor, followed by PPD and HQ. Root growth of the radish was more seriously inhibited by ammonia volatilization than shoot growth, suggesting that the roots of the radish were more sensitive to ammonia toxicity than the shoots. Therefore, application of urease inhibitors, reducing rate of urea applied at sowing significantly alleviated ammonia toxicity of the radish to some extent, improved the germination rate of the radish and promoted its growth.

Keywords: radish; ammonia volatilization; urease inhibitors; seed germination; early seedling growth