

Mokuzai Gakkaishi  JWRS
The Japan Wood Research Society

[Available Issues](#) | [Japanese](#) >> [Publisher Site](#)

Author: Keyword: [ADVANCED](#)



[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1880-7577

PRINT ISSN : 0021-4795

Mokuzai Gakkaishi

Vol. 53 (2007) , No. 3 p.149-156

[\[PDF \(850K\)\]](#) [\[References\]](#)

Ergonomic Design of Wood-Based Raised Bed for Horticultural Therapy

Comfortable height and reach distance for elderly persons

Toshimasa Ohgama¹⁾, Katsuji Noda¹⁾, Shun Sakuraba²⁾, Masaaki Hohjo¹⁾, Masatoshi Komiyama¹⁾, Yoshihiro Ueda³⁾, Tomoko Akanuma⁴⁾, Fumio Terauchi⁵⁾ and Fumio Ikegami¹⁾

1) Center for Environment, Health and Field Sciences, Chiba University

2) Shimada Construction Incorporation

3) Gifu International Academy of Horticulture

4) School of Nursing, Chiba University

5) Faculty of Engineering, Chiba University

(Received July 19, 2006)

(Accepted October 10, 2006)

Abstract: The purpose of this study was to obtain the basic data required to design a raised bed for plants suitable for the horticultural therapy in which able-bodied or frail elderly persons can perform gardening in a relaxed standing posture. Comfortable heights of working surface and reach distances were measured in a bimanual transplant task. The results obtained were as follows : (1) Among able-bodied elders, comfortable heights selected by most males were 85 and 90 cm, while those of females were 75 and 80 cm. The height of the raised bed suitable for standing work could be roughly estimated as 20 cm below elbow height. Comfortable reach distance ranged from 20 to 40 cm both in males and females. (2) In frail elders, 70 cm was selected as the comfortable height. However, it was found by interviews that sensuously there was no great difference between 70 cm and 80 cm. The range of the comfortable reach distance was from 10 cm to 45 cm. (3) Taking together, the range from 10 cm to 40 cm could be a desirable reach distance for both kinds of elders. (4) Many elders complained of possible backaches after the transplant task using lower raised beds. In addition, elders with disabilities also complained of light fatigue around their knees.

Keywords: horticultural therapy, raised bed, elder, standing posture

[\[PDF \(850K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

[BibTeX](#)

To cite this article:

Toshimasa Ohgama, Katsuji Noda, Shun Sakuraba, Masaaki Hohjo, Masatoshi Komiyama, Yoshihiro Ueda, Tomoko Akanuma, Fumio Terauchi and Fumio Ikegami: Mokuzaei Gakkaishi Vol. 53, No. 3, 149-156 (2007) .

doi:10.2488/jwrs.53.149

JOI JST.JSTAGE/jwrs/53.149

Copyright (c) 2007 by The Japan Wood Research Society



[Japan Science and Technology Information Aggregator, Electronic](#)

