#### Efficient Okra and Brinjal Harvesting with Mittens





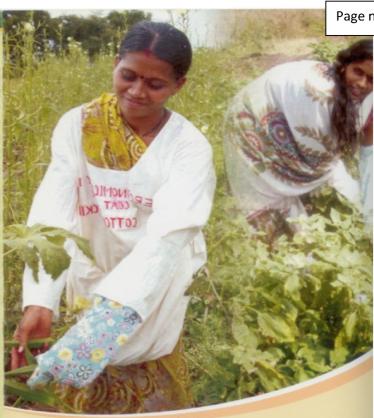
Guidance on making mittens and apron available on demand

ADDRESS FOR CORRESPONDENCE

#### Dr. Jayshree P. Zend

Senior Scientist, AICRP FRM Dept. of Family Resource Management College of Home Science, VNMKV Parbhani

Mobile No. 09423444819, E-mail: jpzend@rediffmail.com



Safe And Happy Harvesting with

### **Janai Mittens**



Dr. Jayshree P. Zend Manjusha Revanwar Sandhya Admankar



2013

All India Co-ordinated Research Project

**Dept. of Family Resource Management College of Home Science** 

Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbha

#### Use Apron and Mittens - Get Good Returns



# Useful features of developed Janai mittens for harvesting

- Simple design for stitching
- Made out of locally available material and local artisan
- Useful for mitigating drudgery and increasing speed of work
- Low cost
- Long sleeves of mittens give protection to the skin of arms
- Useful in harvesting of okra, brinjal, soybean, cluster beans, chickpea and safflower
- It reduces musculo- skeletal problems of workers
- Provision of sticking belt makes possible to adjust the mitten to hand and arm

## Make Safe and Happy Harvesting with Janai Mittens

Vegetable harvesting is performed manually only by the farmwomen. It is tedious and drudgery prone activity. No technology is available for vegetable harvesting. Harvesting of okra and brinjals was found to be very difficult activity for farmwomen due to pricking of thorns and prickles and skin contact of natural secretion of plant and insecticides to the fingers and arms. Wounds, skin irritation, rashes, insect bite, itching are common problems faced by women workers while performing harvesting of okra and brinjals.

These are the reasons affecting work efficiency of farmwomen. Hence, to prevail over these problems mittens for protecting hands and arms are designed, developed and tested for okra, brinjals and soybean harvesting. Localized postural discomfort responses and criticality index for all the discomfort reasons revealed that fingers, shoulder, neck and upper back were the critical parts having high degree discomfort while harvesting okra, brinjals and soybean.

Hence, considering this vital need to protect the fingers and arms three types of mittens with long sleeves were developed separately each for okra, brinjals and soybean harvesting.





Winding used cloth around fingers before starting the harvesting - a very sad situation in rural area

Thumb

Provision of
Velcro, a fastener
at belt makes
possible to adjust
the mitten to wrist



Index finger, middle finger, Ring finger and small finger

**Brinjal Mitten** 

Index finger and middle finger Thumb

Provision of
Velcro, a fastener
at belt makes
possible to adjust
the mitten to wrist



Ring finger and small finger

Polyethylene sheet Lining for fingers to avoid penetration of natural secretion of plants

**Okra Mitten** 

Ergonomic evaluation was carried out with 30-selected farmwomen to find out the effect of mittens. The results revealed that there was significant reduction in physiological cost of work and body discomfort ratings while performing harvesting manually by using Janai mittens. It was also found that there was increase in pace of work (16 to 27%) and area covered under vegetable harvesting (9 to 12%).

Drudgery reduction was higher i.e. 39.26 and 48.25 per cent for okra and brinjals harvesting respectively by using protective mittens.



Cotton Picking Apron useful for Vegetable Harvesting



**Health Hazards in Traditional Method**