

PN-ABY-601

FN 99368

**Hhohho Fruit And Vegetable Cooperative Society
and
Khulumela Kwenta Cooperative Society**

Operational Manual : Packhouse Guide

**Swaziland Commercial Agricultural Production And
Marketing Project**

March, 1996

TABLE OF CONTENTS

- A. Packhouse Operation
- B. Packing Materials
- C. Sales and Services
- D. Transportation
- E. Grading
- F. Handling, Storage, and Sanitation
- G. Packhouse Requirements
- H. Forms

- Work Schedule
- Price/cost Sheet
- Payment Record
- Receiving Record
- File Boxes

A. Packhouse Operation

1. Staffing

Secretary/ Manager
Floor Supervisor
Bookkeeper
Receiver/Quality Control (Internal)
Collection Truck Agent/Quality Control
Driver
Graders/Packers
Security guards
Floor Assistants

2. Staffing Comments.

1. Secretary/Manager.

Supervise all packshed activities. Directly responsible for all sales and collection.

2. Floor Supervisor.

Supervise all floor activities.

3. Bookkeeper.

Responsible for all bookkeeping according to co-op requirements, banking farmer collector and farmer payments.

4. Receiver/Quality Controller (Internal)

Accepts or rejects all incoming produce and packshed determine No. 1, No. 2, No. 3 grade and of packing.

5. Collection and Truck Agent/Quality Controller (external)

Accepts or rejects all produce and collection points. Responsible for accurate information in filling and field collection book and pickup points.

6. Driver.

Responsible to collect produce, make bank deposits, collect seedlings plus any work required by the manager.

7. Graders/Packers.

Responsible to floor supervision. Check produce into crates, cartons, pockets as directed by floor supervisor. To do packing as to standards of quality assess by manager.

8. Security guards.

Responsible to check invoices with outgoing produce at gate. To ensure safety of packshed and employees.

9. Floor Assistant

Directly responsible to floor supervising. All paper work to be done in accordance with bookkeeper requirements.

3. Weighing.

All packets, crate, cartons, are to be checked to ensure minimum weight for the required produce. Floor supervisor responsible.

4. Grading

The grading machine set to grade according to size. The graders/packers are to pack into cartons, pockets crates according to colours and sizes as required by management. The packed sizes and colours are determined by the receiver as sold by the manager.

B. Packing Materials.

| | | |
|-----------------------------------|---------------------|--------------|
| Sources - cartons - Tomato/Banana | Neopac | 84277 |
| Pockets | Neopac | 84277 |
| Pockets | Namboard | 84088 |
| Staples | Swazi Plastic | 84546 |
| Plastic bags | Swazi Plastic | 84546 |
| Twine | Swazi Pak | 84216 |
| Field Crates | Mega Pak | 01311-581341 |
| | Fax | 01311-581188 |
| Field Crates | Matsapha Stationers | 85139 |
| | Fax | 85214 |
| Wood Tomato Lugs | Ruhan van Dyk | 01315-81138 |

Markets.

| | Wood | Exchange Field Crates | Personal Field Crates | Pockets |
|---|--------------------------|-----------------------------|--------------------------|---------------------------------|
| Tomato Ctns | Tomato Lugs | | | |
| Encabeni | Nelspruit | Durban Traders | Encabeni | Encabeni |
| Pretoria Johannesburg Durban Nelspruit | Pretoria Johannesburg | Vendors | Johannesburg | Pretoria Durban Nelspruit |

C. Sales and Services

1. Permits.

- Permits are required in order to ship produce from Swaziland through to the border-gates. In order to obtain a permit for export the following requirements must be met:
- If quantities are huge then a phone call (83017/83220) will initiate a response from the inspector to go to the fields and check produce.
- Bring samples to Agriculture Station in Malkerns, phone (83017/83220) .
- The sample will be checked for type of pack/quality/quantity.
- Permits requires name of business and destination
- Permit is valid for 14 days
- A second permit is required to go through the border gate. The Permit can be obtained through Namboard, phone (54072). The cost of the second permit is E15.00.

2. Vegetable Sales.

All sales are handled by the manager. Listed are the major markets and phone numbers. The listing are not for individual agents on the major markets in South Africa:

| <u>S A major market</u> | <u>Phone number</u> |
|-------------------------|---------------------|
| Pretoria | 011-326-0972 |
| Durban | 031-465-1519 |
| Nelspruit | 01311-53645 |
| Johannesburg | 011613-2041 |
| Cape Town | 021531-2044 |

| <u>Swaziland markets</u> | <u>Phone number</u> |
|--------------------------|---------------------|
| Gastaldi | 84597 |
| Fresh Pak | 85184 |
| Spar Manzini | 53875 |
| Spar Mbabane | 22571 |
| Matata Shopping centre | 36144 |
| MITC | 52744 |
| Eyakho Foods | 48684 |

| <u>Durban Traders</u> | <u>Phone number</u> |
|-----------------------|---------------------|
| Jay Sookoo | 0731507-4025 |
| Gan | 0731825-5532 |
| Joey Singh | 07322336-252 |
| Pash | 07315072-308 |

Vegetable sales are all handled by the manager. In order for the manager to sell, the following information is necessary:

- Quantity and pack on hand
- Quantity and pack incoming
- Marked prices
- F O B delivered on consignment market
- Receivers ability to pay for the produce
- Seasonal markets
- Trucking available - refrigerated, dry van, covered size
- Reliable, honest receiver

Most sales are telephone sales and are initiated by the seller. If a fax is available then the market information will be timely. Trucking can also be arranged by fax. It is best to have discussed truck prices into all areas and established set prices. These set trucking prices allow the seller to know in advance if marked prices on produce plus trucking fees allow for profit or loss on the load.

3. Produce market information.

This market information is compiled from all major markets in South Africa. Call these numbers to obtain daily information by fax at your place of business. Some information require a fee:

| | | |
|--------------|--------------|----------------------|
| Johannesburg | 0711613-2049 | Manqué Van Jaarsveld |
| Pretoria | 0712326-0972 | Erica |
| Durban | 0713465-4222 | Peter Wilke |

D. Transportation.

1. Swaziland Internal Trucking.

| | |
|-------------------|-------|
| Namboard Trucking | 84088 |
| Eyakho Foods | 48684 |

2. Siphofaneni/Sithobela Areas.

Nicholas Dlamini
Solomon Dlamini

3. Swaziland External Trucking

| | Fax | Phone |
|-------------------------|-------|-------|
| Express Services | 41491 | 41491 |
| AMI | 84212 | 84203 |
| Eyakho | | 48684 |
| Cargo Carriers | | 31116 |
| Greenkay International | 56214 | 56214 |
| Tradesman Agencies | 44332 | 43967 |
| Unitrans | 86120 | 86122 |
| Tiger Transport | 54787 | 54274 |
| Progress Builder Supply | 54483 | 52138 |

It is extremely important for the manager to make contact with these companies in advance of using the transport. A complete price sheet with delivery prices needs to be established well in advance of your needs. These prices need to be on file for each size of truck and areas available for delivery. A phone call will be required and a copy can be send by fax.

E. Grading

1. Proposed Tomato Grades

Swaziland has no official set of grading standards of fresh produce marketed inside the country. Quantity standards are subjective. They are based on perceptions of buyers and sellers of the produce such as good, fair or poor. Evaluation of produce is almost entirely based on the visual assessment. This can lead to disagreements when both buyers and sellers are not present at the same time. What could be ranked as good quality produce by farmers may be ranked as fair or poor by the agents or customers. Sometimes farmers claim that agents purposely undergrades their produce in order to buy it cheaply.

In an endeavour to alleviate the problems caused by the absence of a grading system an ad hoc committee met and drew up a set of grading standards of tomato

with a view to adopting the produce coming to the Encabeni market. The proposed grading system is based on the South African system modified to suit local requirements.

2. Defects

The system relies on inspection to identify defects as follows:

- Decay - any decomposition, fungal or insect infection visually noticeable.
- Size variation - variation in diameter.
- Other factors - any visible matter which does not naturally form part of the tomato.
- Firmness - tissue no longer fit enough to offer resistance to normal commercial handling.
- Scars - any mark on outer wall which affects appearance.
- Cracks - any burst or crack on outer wall affecting appearance.
- Bruises - pressure wounds visually noticeable.
- Graniest pressure (too green) - if pips are underdeveloped and filled with jelly.
- Appearance and form (shape) i.e. round oval or deformed.
- Injustice (cold injury etc.) - would puncture or mechanical damage exposing.
- Ripeness - colour different from other tomatoes.

3. Encabeni Standard

Tomato will be graded according to selected quality factors, permissible decay, size variation with the same container, variation in ripeness and other factors listed in above.

Exhibit: Permissible deviations in quality factor for tomatoes from the same container.

| Factor | Maximum Deviation | Maximum Deviation | Maximum Deviation |
|-------------------|-------------------|-------------------|-------------------|
| | Grade 1 | Grade 2 | Grade 3 |
| | Percent | Percent | Percent |
| Large | | | |
| Decay | 0 | 5 | 10 |
| Size | 15 | 20 | 25 |
| Ripeness | 20 | 25 | 30 |
| All Other Factor | 10 | 15 | 20 |
| Medium | | | |
| Decay | 0 | 5 | 10 |
| Size | 15 | 20 | 25 |
| Ripeness | 20 | 25 | 30 |
| All Other Factor | 10 | 10 | 10 |
| Small | | | |
| Decay | 0 | 5 | 10 |
| Size | 15 | 20 | 25 |
| Ripeness | 20 | 25 | 30 |
| All Other Factors | 10 | 10 | 10 |

Large - diameter of 70 mm or more

Medium - diameter of 50 to 70 mm

Small - diameter of 30 to 50 mm

- Tomatoes will not be graded by size but tomatoes in the same container must be uniform.
- Ungraded tomatoes have no space specifications of quality or size.
- Tomatoes will be packed in 6 kg cardboard or wooden boxes or 20 kg lug boxes.

4. Packsheds Standards

- Defects allowance up to 10% at time of receiving.
- Defects include : Bruising, sunburn, insect damage, frost damage, puffiness, stage of maturity, size less than 30 cm, colour.

F. Handling, Storage and Sanitation

Covered or handling of produce begins with the farmer. Tomatoes must be selected by farmer for quality, and size. The picker is carefully not to drag tomatoes into field crate. These are to be stocked carefully on the truck and received at the packshed in good condition. All produce is to be re-stocked onto pallets. The tomatoes of # 1,# 2 in cartons are to be stored on pallets on the tomato crates at 12

degree Celsius. The field crate tomatoes are to have a slip with the date of arrival at the packshed. All produce is to be dated upon receiving. All produce is sold on basis of first in/first out.

The grading machine is to be kept in good order. The grading machine, main floor, rest rooms, office, crates area and outside perimeter is to be swept, cleaned and polished each day at 4:30 p.m. each before the closing time of 5:00 p.m.

G. Pack House Requirements

1. Physical structure and location:

- ideally located on or close to a main road to facilitate entrance by larger vehicles and eliminate damage by physical jostling and battering of packaged produce.
- central location to farmers be served is desirable to reduce transport time and cost as well as product damage.
- smooth concrete floor (graded to permit washing as needed, optional). The floor space should be open and clear of obstructions to allow flexibility in the packing and grading operation, minimum size would be 10 meters x 20 meters, 15-20 meters x 30-40 meters would be better.
- a sturdy high roof to permit the entrance of larger lorries and protect occupants and product as well as packaging materials and other materials from the elements, zinc coated or aluminium sheeting is adequate for this purpose. Optimally the roof design would incorporate a ridge vent and eave and/or gable vents to minimise heat build up with in the shed, ventilation of some sort could be retro-fitted to an existing structure.
- running water, phone and electrical service would be desirable, although not absolutely necessary, an electrical generator, water tank and alternate communication systems are desirable
- the building should be enclosed to protect the operation from blowing rain and wind-borne dust as well as theft. There should be large windows for light and ventilation. These should be barred and shuttered for security and protection from the elements as needed. Doors should be large to allow easy flow of product in and out. There should be at least one garage type or double door to allow the entrance of large equipment, lorries and palletised merchandise into and out of the pack shed.
- a separate office area for management would be desirable, as would separate, securable storage area for valuable tools and equipment.
- a fenced yard with adequate parking and turning room for anticipated vehicular traffic, i.e., large lorries and possibly tractor trailer rigs would be a plus. The fence would keep out animals and unauthorised persons, thus adding to security and control. A

loading dock or ramp would be ideal to facilitate loading with the assistance of a pallet jack and or hand trucks, (optional).
adequate sanitary facilities for staff and workers, necessary to prevent development of a sanitary nuisance condition around the pack shed. It must be remembered that we are dealing with food products and sanitation is critical.

2. Packing shed equipment and material:

- a grading and sizing line, a locally available machine suitable for tomatoes, bell peppers, onions, and potatoes was used in the Mkhovu pack house with good results. It is reportedly reliable and sturdy, reasonably priced, and parts and service would be available locally. This line is available from Ooskard Trekkers, PO. box 123, Hankey, RSA. 6350, contact person is Mr. J. G. de Lange.
- a shrink wrap machine for pre-pack operations. This is essential for penetration of many sectors of local and export markets.
- a set of locally fabricated wooden dump trays and packing tables, such as illustrated in Jim Faulkners report and used successfully by this writer at the St. Catherine's vegetable growers association for a wide range of crops for some 5 years. A set of 4-6 dump trays and packing tables should be adequate. These are usually 4 feet x 8 feet (120 cm x 240 cm) in size based on the dimensions of a standard sheet of marine plywood, and built at such a height to facilitate ease of labour.
- a set of loading coaster ramps (rollers) with supports to facilitate flow of packaged product and the loading of trucks.
- a couple of misc. tables or saw horses and plywood sheets for box building and other odd jobs.
- scales: several types would be needed. At least one 100 kg floor model deck type scale, two 25 kg table top deck type scales, and two each portable dial type scales in 25 and 100 kg sizes for collection. These are useful for collection of product on farm and should include a sling for weighing lug boxes and other odd shaped packages.
- a quantity of pallets for the storage of packing materials, i.e. boxes as well as the storage and movement of packed produce, 25 - 50 pallets should be adequate. These are also good for holding and moving product awaiting grading and packing as they help facilitate air flow and avoid heat build up.
- a quantity of plastic lug boxes, (500 - 1000) for the collection and holding of produce in the field and prior to grading and packing. Strict inventory control of this item is a must, actually inventory control is a must for every physical asset of the pack shed/farmer association.
- pallet jack, dollies, hand truck (1-2 each) would be very useful

- one floor model stapler, two hand held stapler, and two hand held taping rollers, plus misc. indelible markers for marking boxes
- a small back up generator for packing and grading line, also for backup lighting for night time operation
- Misc. This would include a set a hand tools to maintain equipment, a grease gun, oil can, wheel barrow, brooms, rakes, scoop shovel, hoses, a few plastic barrels or steel drums for trash and assorted usage.

3. Office equipment

- desks(2), file cabinet, work table, shelving, stand up cabinet, telephone or radio, a small safe, adding machine or calculator with tape, fans(1-2), Note from personal experience there is nothing more bothersome than trying to maintain a set of books when sweat is flowing on to the page so profusely as to cause the ink to run. Optional would be typewriter, computer, fax machine, photocopier.
- stationary such as: receival books, invoice books, sales books, (these should be in triplicate with carbon), a set of journals and ledgers appropriate to the nature and scope of operations, company stamps as needed, misc. pads, notebooks, pens, pencils, paper, staples, tape etc.

Note: this is rough wish list of items that would be nice to have at a basic pack house operation, almost all are optional and would have to be tailored to the anticipated need and financial resources of each operation/farmer organisation.

WORK SCHEDULE

WEEK OF _____

| NAME | SUN | MON | TUE | WED | THU | FRI | SAT |
|------|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

DATE _____

PRICE/COST SHEET

| ITEM | | | | ITEM | | | |
|------|--|--|--|------|--|--|--|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

PAYMENT RECORD

FARMER NAME & NO.: _____

DATE OF PERIOD: _____

| DEL NO. | QTY RCVD | DATE | ITEM & GRADE | TOTAL |
|--------------|----------|------|--------------|-------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Cheque | | | | |
| Total: _____ | | | | |

PRICES PAID FOR PERIOD

| NEMAS | | FLORADADE | | OTHER ITEMS | |
|----------|--|-----------|--|-------------|--|
| Gr. 1 | | Gr. 1 | | | |
| Gr. 2 | | Gr. 2 | | | |
| Gr. 3 | | Gr.3 | | | |
| Gr. 4 | | Gr. 4 | | | |
| Ungraded | | Ungraded | | | |
| | | | | | |
| | | | | | |

4

RECEIVING RECORD

CARRIER _____
 FARMER NO. _____
 DATE _____

FORM NO. 1002
 FARMER NAME _____
 DELIVERY NO. _____

| COMMODITY | QTY | PACK | PRICE | FREIGHT | OTHER | TOTAL | COMMENTS |
|-----------|-----|------|-------|---------|-------|-------|----------|
| | | | | | | | |

PACKOUT PAYMENT RECORD

CHEQUE NO. _____

DATE _____

CHEQUE TOTAL _____

Received by
~~_____~~

Paid by _____

| DATE | GRADE | PRICE | TOTAL | COMMENTS |
|------|--------|-------|-------|----------|
| | #1 | | | |
| | #2 | | | |
| | #3 | | | |
| | #4 | | | |
| | Reject | | | |

