

SHORT TERM CURRICULUM

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DOMESTIC CANNING OF VEGETABLES

January, 1999

Council for Technical Education and Vocational
Training

(CTEVT) Sanothimi, Bhaktapur

PREFACE

This curriculum has been developed for Technical Schools under the Council for Technical Education & Vocation Training (CTEVT) in the form of short term competency based training package.

This is the first attempt of CTEVT to develop short course of this form. So, feedbacks and constructive suggestions from instructors/trainers are welcomed & gladly included while revising it in the coming days.

I would like to thank Mr. Jeeban Chandra Dahal, Curriculum expert, CTEVT, who played a pivotal role while developing this form of short course.

My sincere thank also go to the subject matter experts who helped a lot by giving valuable technical inputs while developing this short course.

I hope every success of this curriculum in the days to come.

January, 1999

**Director
Curriculum Division
CTEVT**

Acknowledgment

This curriculum has been developed specially for the Technical Schools running under CTEVT with a view to equip trainees with skills and knowledge in the related field of technology/vocation in the form of short term competency based curriculum package.

This is the first endeavor of CTEVT to develop short course in this form. It is hoped that this attempt will pour some drops in the ocean of competency based education provided by CTEVT throughout the country. Feed backs & constructive suggestions on behalf of related instructors/trainers/implementers are most welcome, gladly accepted, & included while revising this curriculum in the coming days.

I would like to extend my sincere thanks to curriculum division, CTEVT, who gave me a golden opportunity to bear responsibility of developing this form of short-term curriculum.

My sincere thanks also go to the subject matter experts who provided valuable technical inputs while developing this form of short course in one or the other way.

I hope every success in the implementation of this curriculum in the days to come.

January, 1999

**Jeeban Chandra Dahal
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1. Aims and Objectives:

This short course for "Domestic canning of Vegetables" is designed to provide trainees with basic skills and knowledge necessary for domestic canning of vegetables.

2. Course Description:

This training program provides task steps, terminal performance objective and related technical knowledge in all tasks necessary for domestic canning of vegetables.

There will be both demonstrations of skills by the instructors and opportunity to practice the skills by the trainees.

Trainees successfully completing this training program will be able to prepare vegetable for canning, carry out blanching, prepare salt solution, fill can with vegetable, take air out of the cans, sterilize cans, label and store the cans.

3. Task structure

	Nature	Total hours
1. Prepare vegetable for canning	P	15
2. Carryout Blanching of vegetable	P	12
3. Prepare salt solution for canning	P	10
4. Fill can with vegetable	P	13
5. Take air out of can	P	16
6. Carry out sterilization	P	14
7. Cool immediately the sterilized can	P	8
8. Label the can	P	9
9. Store the can	P	7
	Total	104

4. Target group :

Literate and interested house wives of the community having willingness to perform vegetable canning.

5. Group size :

Maximum of 16

6. Duration :

104 hours

7. Medium of instruction :

Nepali or English

8. Pattern of attendance :

Regular attendance in classes and work practice.

9. Entry criteria :

Able to read and write and having keen interest in vegetable canning.

10. Follow up suggestion :

First follow up :	One month after the completion of the training
Second follow up :	Two months after the first follow up

11. TASKS

11.1 Task : Prepare vegetable for canning

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Identify proper vegetable for canning. 2. Select vegetable for canning. 3. Cut roots & tips of selected vegetable (if necessary) 4. Dispose cut roots / tips properly. 5. Clean vegetable. 6. Cut cleaned vegetable into appropriate pieces. 7. Finish preparation of vegetable for canning. 8. Follow precautions.. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Vegetables • Vegetable cutting knives • Water • Dust bin • Trays / Nanglo • Bowls • Bucket <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Proper vegetable for canning. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Prepare vegetable for canning identified and selected. • Unwanted roots and tips of vegetable removed and disposed carefully. • Vegetable cleaned will and cut into desirable pieces. • All precautions well followed. 	<ul style="list-style-type: none"> • Concept of preparation of vegetable for canning. • Characteristics of vegetable for canning.. • Selection of appropriate vegetable for canning. • Handling cutting knife or tool safely. • Process of disposal. • Method and need of cleaning vegetables. • Concept of appropriate pieces of vegetable for canning. • Criteria for finished task & advantages of canning. • Precautions to be followed while preparing vegetable for canning.

11.2 Task : Carry out Blanching of vegetable

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Obtain prepared vegetable. 2. Boil water. 3. Wrap vegetable in a clean cloth. 4. Dip wrapped vegetable in the boiling water. 5. Carryout dipping for some time. 6. Take out vegetable from boiling water. 7. Follow precautions.. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Prepared vegetables • Water • Water boiling pot • Clean cloth • Bowls • Bucket • Heating set <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Carry out blanching of vegetable. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Vegetable prepared for canning wrapped in a clean cloth and dipped for sometime in a boiling water pot carefully. • All necessary precautions well followed. 	<ul style="list-style-type: none"> • Concept and purpose of blanching. • Boiling water & handling heating set. • How to wrap vegetable in a clean cloth and its need. • How to dip wrapped vegetable in the boiling water. • Need of dipping vegetable in the boiling water. • Standard time duration of dipping. • Precautions to be followed while blanching the vegetables.

11.3 Task : Prepare Brine for canning

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Identify good quality salt. 2. Obtain the salt. 3. Obtain clean water. 4. Obtain bowl. 5. Calculate/measure salt and water for preparation of 1-2% salt solution. 6. Prepare 1-2% salt solution in a bowl. 7. Filter solution. 8. Put the filterate in a container. 9. Follow precautions. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Good quality salt • Clean water • Bucket/bowel/container • Chemical balance • Filter <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Prepare salt solution for canning. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Good quality salt identified and obtained. • 1-2% salt solution correctly prepared. • All precautions well followed. 	<ul style="list-style-type: none"> • Concept and process of brine preparation. • Use of salt solution. • Use of clean water. • Use of bowl. • Calculation and measurement.. • How and why to prepare 1-2% salt solution. • How to filter solution. • Storing filterate salt solution. • Precautions to be followed while preparing salt solution.

11.4 Task : Fill can with vegetables

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Obtain a clean can. 2. Obtain blanched vegetable pieces. 3. Fill can with blanched vegetable pieces loosely. 4. Avoid pressing. 5. Maintain some space in the top inside of the can. 6. Boil the salt solution. 7. Add boiling salt solution into the can. 8. Fix the lid of the can. 9. Follow precautions. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Clean can with lid • Blanched vegetable pieces • Boiling pot • Heating set • Utensils <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Fill can with vegetables. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Clean can and blanched vegetable pieces obtained and carefully handled. • Can filled with blanched vegetable pieces loosely, without pressing and maintaining some space at the top inside of the can. • Boiled salt solution added into the can carefully maintaining some space in the top inside of the can. • Lid on the can fixed properly. • All precautions followed properly. 	<ul style="list-style-type: none"> • Need of clean can. • Concept of blanched vegetable pieces.. • How to fill can with blanched vegetable pieces.. • Why not to press vegetable pieces in the can. • Need of space at the top inside of can. • Need to boil salt solution & handling heating set. • Function of salt solution. • Need to fix the lip. • How to fix a lid on a can. • Precautions to be followed while filling the can with vegetable pieces.

11.5 Task : Take air out of the can

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Boil water. 2. Obtain filled can. 3. Dip the can in boiling water. 4. Dip can in boiling water for 8-10 minutes. 5. Let not the water to enter into the can. 6. Take out the can from water after 8-10 minutes. 7. Seal the lid of the can in hot stage to create some vacuum inside the can. 9. Follow precautions. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Water • Water boiling pot • Filled can • Heating set • watch • Sealing materials <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Take air out of the can.. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Water boiled in a pot carefully. • Filled can obtained and dipped into the boiling water for 8-10 minutes. • Water entrance inside the can during dipping the can in boiling water well checked (stopped). • Lid of the can sealed well in hot condition so that some vacuum created inside the can • All precautions well followed. 	<ul style="list-style-type: none"> • Method of boiling water. • Concept & process of taking out air from inside the can.. • Process of dipping can into boiling water and precautions to be followed. • Time duration of dipping the can into boiling water. • Why not to let water enter inside the can during dipping. • Process of sealing the lid of the can. • Need of sealing. • Importance of vacuum creation in inside top of the can. • How to fix a lid on a can. • Precautions to be followed while taking out air from inside the can.

11.6 Task : Carryout sterilization

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Obtain filled can. 2. Obtain pressure cooker and water. 3. Arrange heat source. 4. Boil water in the pressure cooker. 5. Dip the can into the water in the pressure cooker. 6. Heat the can under pressure at the given temperature. 7. Heat the can under pressure for a given duration of time. 8. Finish sterilization. 9. Follow precautions. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Can to be sterilized • Pressure cooker • Water • Heating set • Thermometer • Watch <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Carryout sterilization of the filled can. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Can to be sterilized, pressure cooker and water obtained in time. • Water boiled in the pressure cooker carefully. • Can placed in boiling water of the pressure cooker and heated under pressure at standard temperature and for standard time for the given vegetable can. • All precautions well followed. 	<ul style="list-style-type: none"> • Concept of sterilization. • Purpose of Sterilization of can. • Handling heat source/set.. • Boiling water. • Process of dipping can in water of pressure cooker. • Need of pressure heating. • Standard heating temperature and time for specific vegetable can. • Process of sterilization. • Precautions.

11.7 Task : Cool immediately the sterilized can

Task Steps	Terminal Performance Objective	Related Technical Knowledge
1. Take out the can from the cooker. 2. Cool the can immediately. 3. Dry the can. 4. Clean cooker. 5. Store cooker. 9. Follow precautions.	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Cooker • Water • Water pot / bowl • Cleaning materials • Boiled can <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Cool immediately the sterilization can. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Can placed to sterilize in the cooker taken out carefully. • Sterilized can cooled immediately following all safety precautions. • Cooled can dried carefully. • Pressure cooker cleaned and stored properly. • All precautions well followed. 	<ul style="list-style-type: none"> • Removing sterilized can from the cooker safely and carefully. • How to cool the can immediately. • Need for immediate cooling of sterilized can. • Cleaning process. • Storing. • Precautions to be followed while cooling can immediately.

11.8 Task : Label the can

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Obtain can to be labelled. 2. Obtain label. 3. Write information about the vegetable canned in the Label. 4. Obtain glue. 5. Stick label on the can with the aid of glue.. 6. Store glue 7. Follow precautions. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Can to be Labelled • Label • Writing pen • Glue • Water • Soap <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Label the can. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Label, can to be Labelled and glue obtained. • Wrote all informations about the thing inside the can carefully. • Glued and sticked the label in the can carefully and properly at the proper place. • All precautions well followed. 	<ul style="list-style-type: none"> • Concept of labelling. • Informations to be included in the Label.. • Writing informations regarding the things inside the can. • Function & handling glue.. • How to stick label. • Proper place at the can to stick label. • Precautions to be followed.

11.9 Task : Store the can

Task Steps	Terminal Performance Objective	Related Technical Knowledge
<ol style="list-style-type: none"> 1. Identify the concept of storing. 2. Identify cool and dry place. 3. Select cool and dry place. 4. Store the can in the selected place. 5. Follow precautions. 	<p><u>Condition (Given):-</u></p> <ul style="list-style-type: none"> • Can to be stored • Place to store <p><u>Task (What):-</u></p> <ul style="list-style-type: none"> • Store the can. <p><u>Standard (How well):-</u></p> <ul style="list-style-type: none"> • Concept of storing well identified. • Cool and dry place identified, selected and the can stored in the selected place safely and properly. • All precautions well followed. 	<ul style="list-style-type: none"> • Concept of storing. • Need of storing can. • Define <ul style="list-style-type: none"> - Cool place - Dry place • Selecting cool and dry place. • Process of storing can. • Safety precautions to be followed while storing can.

12. Certificate requirement

In order to get the certificate of completion of this training, trainees should master all the tasks and knowledge included in this curriculum.

13. Facilities

1. Well equipped class rooms.
2. Well equipped kitchen.

14. Trainers' qualification

1. Having training in "Vegetable canning"
2. Good communicative / instructions skills
3. Experience in the related field

15. Trainees' evaluation

1. Regular evaluation of trainees' performance by their related trainers
2. Written evaluation regarding the related technical knowledge
3. Final practical test by the related institute

16. Tools / materials / equipment

1. Vegetables to be canned
2. Cutting knives
3. Water
4. Dust bin
5. Trays / Nanglos
6. Bowls
7. Bucket
8. Utensils
9. Water boiling pot
10. Clean cloth
11. Heating set
12. Good quality salt
13. Containers
14. Chemical balance
15. Filter
16. Can with lid
17. Thermometer
18. Watch
19. Sealing materials
20. Pressure cooker
21. Cleaning materials / soap / washing power
22. Label
23. Writing / Labelling pen
24. Glue
25. Funnel
26. Other materials and supplies as per the need.