

Appendix

This appendix offers additional information for certain topics from the main text. In the main text, appendix topics are marked with this symbol **I**.

Topics are in alphabetical order:

I Brochures	2 – 3
I Meetings	4
I News Releases	5 – 8
I Newsletters	9 – 15
I Post Harvest Handling	16 – 21
I Presentations	22 – 23
I Small-Scale Cold Rooms for Perishable Commodities <i>(reprint from Family Farm Series)</i>	24 – 35
I Surveys	36 – 39
I Working with Members	40 – 41

Brochures

A brochure can be fancy or plain. You can type it, create it with a computer, or write it by hand. Above all, make it **clear, easy to read, and interesting to look at.**

Many CSAs have brochures explaining the project and how to get involved.

BEFORE YOU BEGIN

- ✦ Have a clearly defined target audience.
- ✦ Have a clearly stated objective of what you want your brochure to accomplish.
- ✦ Collect and analyze other brochures. "Borrow" the features you like; avoid those you don't like.

WRITING

- ✦ Quickly and clearly tell readers how they benefit from CSA in general and your project in particular.
- ✦ Make every word work; edit the freeloaders.
- ✦ Write at a level your audience is comfortable with; use jargon sparingly, if at all.
- ✦ Use active verbs.
- ✦ Be informal, friendly in tone.
- ✦ Don't include anything that doesn't accomplish your objective.

LAYOUT

- ✦ Presentation is as important as content. Try to make your brochure as visually appealing as possible.
- ✦ Select a typeface and size (usually 10 to 12 point) that is easy to read.

- ✦ Headlines should be two to 2½ times as large as the text type size. Upper and lower case offers more visual variety than all capital letters.
- ✦ Use lots of white space. Avoid the urge to overwrite for the space.
- ✦ Boxes, bold face type, italic type, and bullets (such as those used here) help draw attention to important points.
- ✦ A ragged right margin gives a more informal appearance than an even right margin, and is usually preferred.
- ✦ Color is nice, if you can afford it; but don't overuse color or it will lose its impact.
- ✦ A lot can be done with black and white and one other color. Work with your printer.
- ✦ A **good** photograph is worth a thousand words; a bad photograph is worth nothing.
- ✦ Use clip art to support your message, not for decoration.
- ✦ Keep it simple.

SIZE

Common brochure sizes are 8-1/2 x 11 inches (*6 panels, two folds*) or 8-1/2 x 17 inches (*8 panels, three folds*).

(Adapted from notes by Gary Beall, Extension Communications Specialist, UC Davis)

Meetings

For a **participatory CSA**, the purpose of an interest meeting is to determine support. You can advertise this meeting by posting notices anywhere potential members might be: health food stores, other retail businesses, community bulletin boards. When you give presentations to groups, announce the meeting and invite everyone interested in CSA to come.

At this meeting, introduce your farm. Show pictures or slides of the farm in different seasons and of your products. Include shots of people and animals on the farm. Bring in something you've grown for a tasting. Make people excited about establishing a direct link with a farm. What makes an interest meeting different from a presentation to a civic organization or community group is that you want to try to leave this meeting with a few volunteers who will form your core group.

Here are some guidelines that apply to this interest meeting and to subsequent core group meetings:

*Keep meetings
short and
to-the-point.*

- ✦ **Establish a time limit and stick to it.** Meetings that last an hour to an hour and a half are long enough to get something done, but not so long that you lose people's interest. Set time limits for each agenda item and stick to them, too. These limits help keep the meeting focused.
- ✦ **Have an agenda for every meeting.** People should know why they are meeting — introduction to CSA, budget, crop plan, distribution, whatever. Focus on the agenda topics, and avoid tangents until the central topics are handled.
- ✦ **Decide how to decide.** Will you make decisions by consensus? two-thirds vote? majority vote? Who can vote: anyone who shows up or just certain people? Will you decide casually or formally?
- ✦ **Let everyone speak.** Meetings tend to be dominated by a few people. Everyone needs to have a chance to speak, because those quiet people are sometimes the most perceptive. It helps to go around the room and have each person comment in turn, especially when a meeting is about to make a decision.
- ✦ **Have an open floor.** This allows the introduction of new concerns and the handling of miscellaneous items. Set a time limit for this, too.

News Releases

Having a newspaper run an article about your CSA project is cheap advertisement to a large audience. This approach isn't *targeted*, so you can find potential members you otherwise would have missed.

Writing an effective news release requires sticking to conventions about the style of writing, content, and form the release takes. The rest of this chapter will describe some of these conventions.

FORM OF YOUR ARTICLE

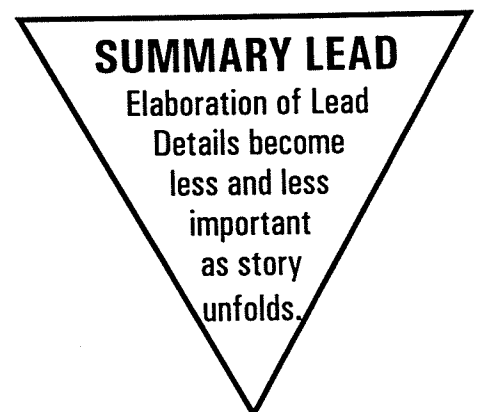
First, you need to consider the purpose of your story, because it determines the form of the article. There are three basic types of news stories:

- ① **Advance stories** give important information about something that is going to happen.
- ② **Follow-up stories** tell about events that have already happened.
- ③ **Feature stories** provide information and interpretation, instruction or entertainment. Many CSA articles fall into this category.

Advance and follow-up stories have a definite structure— they get to the point fast. The most important facts of the story should be in the first sentence or two (*the summary lead*), with details following in order of importance:

This way of ordering facts is called the *inverted pyramid*. This type of structure is important because:

- ✦ Readers who haven't the time or the desire to read the whole story can get the most important information at a glance.



Newspaper articles on your farm are FREE advertising.

- ✦ If the newspaper doesn't have enough room to print the whole story, it can easily shorten it by chopping off the end — without losing the *meat* of the story.

It may help you to list the facts in order of importance before you start to write.

Feature stories seldom follow the inverted-pyramid format. The first paragraph sets the tone and grabs the reader's attention. It can't stand alone as a summary of the facts. If you try your hand at a feature story, be as creative as you wish. Remember, though, that the rules for good writing still apply.

WRITING

Most news stories can be summed up by the *five Ws and an H*:

- ✓ **WHO?** Who is the subject of the story?
- ✓ **WHAT?** What happened?
- ✓ **WHERE?** Where did it happen?
- ✓ **WHEN?** When did it happen?
- ✓ **WHY?** Why did it happen? Why is it important?
- ✓ **HOW?** How did it happen?

The summary lead usually answers the most important of these questions. It may answer more than one. Keep in mind what makes your story *news*, and present those facts in the summary lead.

After the lead, the remaining facts should follow in order of importance. Details and background information usually appear at the end of the story.

After you have planned your story, follow these rules of writing to assure that your story will be easy to read:

- ✓ **Stick to the facts.**
- ✓ **Use short sentences and short paragraphs.**
- ✓ **Use active verbs.** "He threw the ball" is better than "the ball was thrown by him."

*As you prepare
your article for
submission,
check and
double-check
everything.*

- ✓ *Use short, simple words.*
- ✓ *Avoid clichés and complicated constructions.*

EDITING

When you have completed your story, read it carefully to check for these points of accuracy, grammar and style.

- ✓ *Check and double-check your facts: spellings of names; meeting dates, times and places; etc.*
- ✓ *Check each sentence for mistakes in spelling or grammar.*
- ✓ *Check for errors in style, such as improper capitalization or punctuation.*
- ✓ *Eliminate clichés and empty phrases.*

PUBLICATION

Preparing your story for publication is a matter of typing it carefully in the standard format preferred by newspaper editors.

At the top of the page, type your name and telephone number, so the editor knows where the story came from and how to get more information. Leave the top third of the page blank so the editor can mark the copy for a headline, size of type, etc. Double or triple space the text for ease of reading. Keep the whole thing to two pages, tops.

If you will be submitting stories to one newspaper regularly, ask the editor how she or he prefers to have the story prepared.

PHOTOGRAPHS

You may submit photographs by themselves or with a story. All photos should have a *cutline* — the written explanation under the picture. Cutlines vary in length and purpose. Mug shots may require only the name of the subject. Candid action photos should be explained. You should name everyone in the photo, if possible, usually from left to right.

Some rules for cutlines are:

- ✓ *Write short, clear, complete sentences.*
- ✓ *Make sure the names are spelled correctly, and that they match up with the people in the photograph.*
- ✓ *Identify people by their places in the photo, not by physical characteristics.*

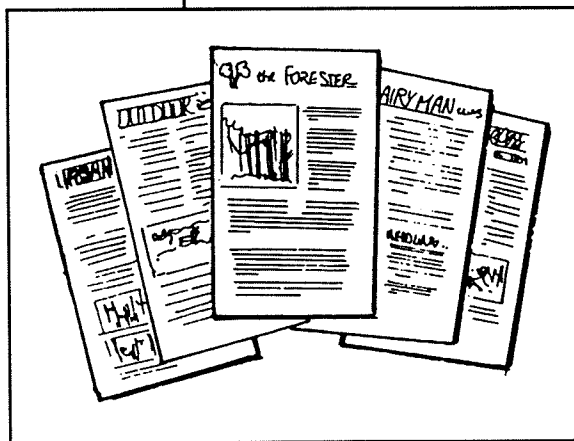
SUBMISSION

Submit your story by mailing it to the newspaper or dropping it off. Be sure to keep their deadlines. You may find it helpful to get to know some of the staff of the newspaper. They can tell you when the busy times are, which columns or sections could use your type of article, and how you can polish your releases.

Newsletters

*CSAs commonly
communicate
with members
by newsletters.*

Newsletters are short, regularly produced publications. Nearly all CSA farms have them. Like share notes, they let members know what is going on at the farm. However, they come out less frequently than share notes, maybe four times a year. Because you have more time to put one together, you can explain more about the farm, about how you grow the food, about changes that have happened or that you expect. You can also communicate about the CSA, lining up members for the next season, changing drop-off times, and soliciting volunteer help. Some newsletters also include reflections from farmers, workers, or members.



Newsletters are useful for CSAs because they are inexpensive and easy to produce, and their content and tone can be tailored to your audience. On the other hand, they reach a small, select group of people, so they do not create general public awareness of your project or any special events.

Above all, keep it simple. The newsletter is a sideline to the CSA and farming. The guidelines and suggestions that follow do not apply in all cases. A one-page general letter to your members that comes out

occasionally may be all you are interested in doing.

PLANNING

A newsletter relies on consistency of writing, appearance and scheduling for its success. When your readers can expect a consistent delivery of information written just for them, they'll look forward to receiving your newsletter.

Try to schedule for at least four issues per year. If you then find that you have to scrape to come up with material, space your issues farther apart. If you have too much material, add a few issues. Resist the temptation to put out a newsletter

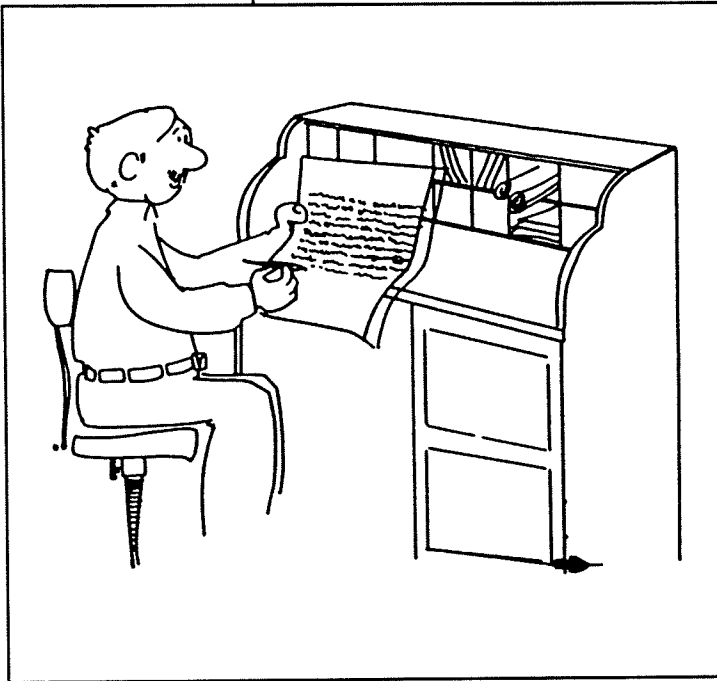
"*whenever there's enough material.*" Your members need to be able to depend on your schedule.

Common types of features found in newsletters are:

- ✦ **Educational** – present new material.
- ✦ **Digest** – summarize material from many sources.
- ✦ **Social** – report human-interest stories designed to promote group unity.
- ✦ **Calendar** – keep readers up-to-date on happenings at the farm and elsewhere.

MATERIAL

You can use many sources for newsletter material – contributions from members, community calendars, journals, CSA information sources, etc. Gather the material and coordinate it so it fits your newsletter and your members. You are the ultimate judge of what best suits your CSA, but keep the following in mind:



- ✦ The material should be new to your readers. Material from a letter or journal your readers have not had access to is good to use.

- ✦ Before you use copyrighted material, get written permission from the author or copyright holder. If this is impossible, rewrite the material in your own words.

- ✦ Be sure the material is timely. It won't do much good to publicize a January meeting if your newsletter won't come out until March.

- ✦ Always consider: "*Does this material fit my membership and purpose?*"

A CSA newsletter should have a light personal style. If the material you get from other contributors or other sources has a different tone, consider rewriting it. You will probably also be writing some original material. Good newsletter writing follows these suggestions:

- ✦ **Make the point.** News stories traditionally present the most important material first — *who, what, where, why, where and how*. Your writing doesn't need to stick with this format, but each piece should have a clearly identifiable purpose behind it.
- ✦ **Use short sentences.** Average sentence length should be 16 to 19 words.
- ✦ **Use short paragraphs.** Average paragraph length should be two to five sentences.
- ✦ **Edit and proofread.** *Are your spelling and typing accurate? Are your facts correct?*
- ✦ **Use active verbs.** Instead of: "A decline in enrollment was noted," try "enrollment dropped."
- ✦ **Use simple words.** Even a technical topic is understandable if you use everyday words to tell about it.

ELEMENTS



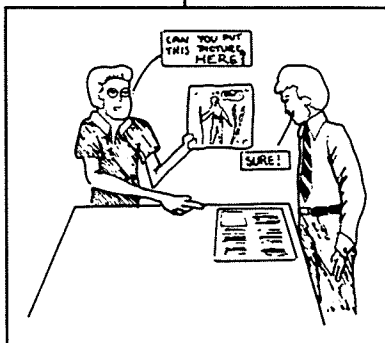
MASTHEAD

The masthead catches the reader's eye and can set the image for your whole newsletter. It should include the name of the newsletter, the name of your farm, the date, volume number and your farm or CSA logo.

You can design your own masthead using press-on letters (*available at most book or business supply stores*) and simple art, or generate it on a computer with a graphics program, clip-art and/or special fonts (*typefaces*). You could also ask your members or talented friends to help.

Once you have a masthead, stick with it. It makes your newsletter easy to recognize and gives it consistency.

ART

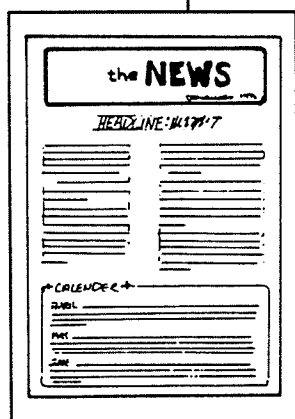


Simple artwork adds zip to your newsletter, but be sure it serves a purpose, such as illustrating a point. **Never use art just to fill up space.** The best locations for art are the left side of the page or the upper right-hand corner.

Draw simple illustrations or clip them from non-copyrighted material such as Extension bulletins or clip-art books. Photos may also be used, but check how well they copy before committing newsletter space to them.

HEADLINES

Design headlines and subheads (*secondary headlines within an article*) to lure your readers into the story. The headline should be a few words that sum up the story. Avoid using script or all capitals — both are difficult to read.



COLOR

Your text should always be in black or very dark-colored ink. You can add color to your newsletter by using colored paper stock or adding colored ink for art, rules (*lines*) or headlines. If you use colored paper, make sure there's enough contrast between the paper and the ink to allow easy reading. Color copying is eye-catching, but also more expensive than regular copying.

PUBLICATION

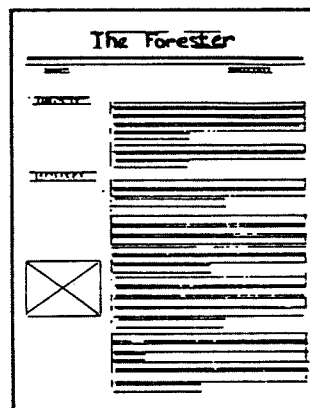
Once you have written your material, your only remaining problem is getting your readers to read it. Towards this end, your newsletter should be easy to recognize and easy to read. We'll discuss two possible formats here, but there are many others. Your goal is to have the audience read your message. **If the format is not easy to read – throw it out.**

*A good format
helps the
audience read
the articles.*

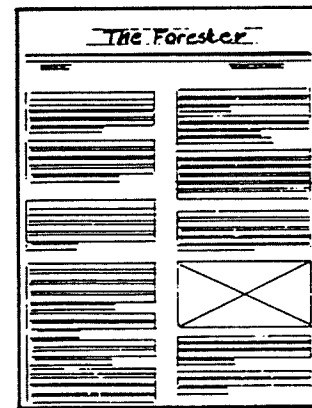
Paper that is 8½" x 11" commonly uses three formats: one column, two column and three column. Keep in mind that every sheet of paper has two sides, and that a single 11" x 17" sheet folded once equals four sides that are 8½" x 11".

ONE COLUMN:

Many experts report that the best way to put type on the page is in one column five to six inches wide, with headlines to the left and aligned at the top of the column. Readers can easily scan the headlines, and the white space keeps the page from seeming crowded. It's also easy to type the material to fit. One disadvantage: not as much fits on a page.



One Column



Two Column

TWO COLUMNS:

Many newsletters use two 3½" columns on a page because it's an easy format for editors to work with – easy to type, easy to use art with and easy to assemble. A lot of material can fit on a page. Plenty of space around headlines gives the pages an open, easy-to-read look. Be sure, though, to leave at least ½" margins and ½" between the columns.

THREE COLUMNS:

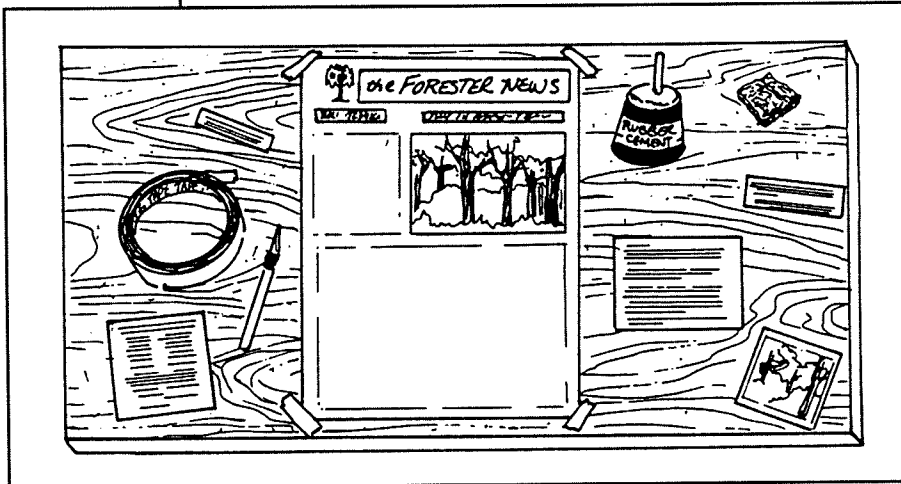
With the increased use of computers, the three-column format has become more popular. The narrow columns are easy to read and simple to format on a computer. In addition, layout is very flexible: the lengths of columns and articles are adjustable.

Without a computer, however, a three-column format is somewhat difficult.

LAYOUT

You can do layout by the cut-and-paste method, in which you

cut the articles and artwork to fit, and paste them in the proper places on the page. Useful tools for this are: an Exacto knife or razor blade, rubber cement (or white glue), clear tape, a ruler and a repro blue pencil (repro blue pencil lead doesn't photocopy).



You can also do layout on a computer. Many programs allow you to set up a newsletter and move elements around until you are satisfied, then print out a finished page. However, if you don't have the capability to scan photos and other art, you may still need to do a little cutting and pasting to get your final product.

Use boxes or rules (*lines*) to emphasize special sections of your newsletter. Don't overdo it, though, or you will have achieved clutter instead of emphasis.

Do's and Don'ts:

- ✦ **Do leave plenty of space around headlines to help them stand out.** Leave twice as much space between the headline and the text above it as between the headline and the text below it.
- ✦ **Do mix styles** – but with caution. It's okay to type one story in a different format to emphasize it, but if you jumble your newsletter with too many column widths, it is confusing to the readers.
- ✦ **Do number your pages.**
- ✦ **Don't end a column with a broken word.** Don't carry the last line of a paragraph to the top of the next column or the last line of a story to the next page. If you can't squeeze the material in, carry over two or three lines instead of just one.
- ✦ **Don't type in a single column more than 6½" wide.** Longer lines are okay for a short business letter, but never for a newsletter. Wide columns are hard to read.

There are many ways to reproduce your newsletter for publication: mimeograph, ditto, offset printing, etc. By far, the easiest for a CSA is photocopying. A copy shop will charge you five to ten cents per side to copy your newsletter, or you can do it yourself on their self-serve copy machines. Shop around for the best price, because they do vary. In addition, some of your members might be able to copy the newsletter for free or cheap, so be sure to ask them.

Post Harvest Handling

Poor postharvest handling practices can cause extensive loss of market quality. Fresh produce is alive, and after harvest it depends upon its own food reserves for the energy needed to remain alive. Farmers need to manipulate postharvest conditions so that product deterioration is minimized and the quality delivered to the consumer is maximized. They can do this by providing favorable:

- ✦ Harvest practices
- ✦ Packaging
- ✦ Postharvest environment

HARVEST PRACTICES

Harvest at optimum maturity for best eating quality. **Immaturity** increases water loss and shrivel. Some fruits (*e.g., strawberries and tomatoes*) may never ripen satisfactorily; others (*melons, sweet corn*) may be low in sugars. **Overmature** products such as beans, corn, and celery become tough. Overmature sweet corn will be low in sugars and starchy. Both immature and overmature produce are more susceptible to decay.

Harvest during the coolest part of the day. This is most important for highly perishable products, because high temperatures lead to rapid deterioration. To minimize the spread of certain diseases, harvest should begin as soon as the foliage has dried.

Handle all produce gently. Cuts, punctures, abrasions, crushing, and bruising happen in every handling step. Fruits and vegetables may appear undamaged, but internal bruising may have occurred. Most decay and much of the water loss (*shriveling*) develops on fruits or vegetables where damage has occurred. This can be reduced by eliminating as many steps as possible between harvesting and getting produce to your members.

Keep containers clean. Using water containing 70ppm chlorine (*or one teaspoon of household bleach mixed with one gallon of water*) will kill decay-causing organisms on the

*Handle produce
as little as
possible to
reduce injury to
products.*



container surface and will remove sand or other trash that could injure the produce. (*Plastic containers are easier to keep clean than wooden ones.*)

Keep harvested products out of the sun. This will minimize wilting, sunburn, and prevent unnecessary heating of produce. On a sunny, hot day, tomatoes held in the sun for one hour can be as much as 25°F hotter than fruit held in the shade. Find shade under trees, tall plants or trucks, or set up temporary shelter in the field with shade cloth, plywood or other material.

Avoid rough roads. Vibrations can cause considerable damage to produce. Grading field roads may be worthwhile. Tie or wedge the load securely to help reduce damage. Rug pads in pick-up beds also cushion produce.

PACKAGING

Don't overpack or underpack your containers. Packing too tightly causes compression bruises. If packed too loosely, the individual pieces vibrate against each other and sustain vibration bruises.

Use new or sterilized containers. Residue from old produce can infect new produce.

Make sure containers are not damaged. For instance, 80% of the stacking strength of fibreboard cartons is at the corners. If corners are damaged, much of the strength is lost. Carton strength is also reduced by bulge packing, wetting, and poor stacking in loads.

Containers need adequate ventilation to permit cooling and temperature maintenance.

POSTHARVEST ENVIRONMENT

Temperature is the most important factor available for controlling product deterioration. Optimum temperatures increase shelf-life and help maintain quality (*see Handling Information table on following pages*). Temperatures that are too high increase water loss and encourage decay.

Temperatures that are too low can cause chilling injury to sensitive products (*decay, discoloration, pitting, and loss of flavor and ripening ability*). Cooling produce to storage temperatures as

*The three
important
components of
the storage
environment
are:*

Temperature
Humidity
Ethylene gas

soon as possible is critical to the shelf-life of produce, even once members get their shares home and in the refrigerator. To remove field heat, many products can be dunked in cool water.

Humidity is important because water loss from fresh produce causes wilting in leafy vegetables and shriveling in fruits, tubers, and roots. Sprinkling or misting some vegetables (*see Handling Information table on following pages*) with fresh water, trimming tops from root crops and shanks from corn, and using protective plastic packaging will help reduce water loss.

Though ethylene gas is helpful for ripening many commodities, it can also hasten unwanted ripening, cause loss of green in some immature products (*cucumbers, squash, snap beans*) and leafy vegetables, cause russet spotting on lettuce, bitterness in carrots, loss of leaves from cabbage, cauliflower and foliage of ornamentals, and shorten the shelf-life of cut flowers. Many crops produce significant amounts of ethylene gas. Some of the more common ones include apples, avocados, peaches, pears, plums, cantalopes, honeydew melons, and tomatoes. Don't store ethylene sensitive and ethylene producing products in the same room (*see the Display and Storage Information table for storage ideas*).

Ethylene is more significant for long-term than short-term storage. When storing produce for only a day, farmers should concern themselves more with storing it at the correct temperature than with worrying about ethylene.

Two tables follow: The first gives general information for small, diversified growers; the second gives more specific information for those with larger operations.

**SUGGESTED DISPLAY AND STORAGE GROUPS
FOR SELECTED VEGETABLES**

[CROPS WITHIN A GROUP ARE COMPATIBLE WITH RESPECT TO TEMPERATURE, HUMIDITY, AND ETHYLENE SENSITIVITY OR PRODUCTION]

GROUP 1

Temperature = 32°F, Relative Humidity = 90-95%, Ethylene Sensitive or Low Ethylene Producing

- | | |
|------------------|-----------------------|
| Beets | Kohlrabi |
| Broccoli | Lettuce, all types |
| Brussels Sprouts | Mustard/Turnip Greens |
| Cabbage | Onions, green |
| Cabbage, Chinese | Parsley |
| Carrots | Peas, all types |
| Cauliflower | Radishes |
| Celery | Rutabagas |
| Chard, Swiss | Spinach, all types |
| Collards | Strawberries |
| Corn, sweet | Turnips |
| Endive/Escarole | Sliced Watermelons |

GROUP 2

Temperature = 50°F, Relative Humidity = 90-90%, Chilling and Ethylene Sensitive Crops

- Beans, all types
- Cucumbers
- Eggplants
- Okra
- Peppers
- Yellow Squash
- Zucchini Squash

GROUP 3

Temperature = 50°F, Relative Humidity = 90-95%, Chilling Sensitive Crops that Produce Ethylene

- Green Tomatoes, mature *
- Honeydew Melons
- Irish Potatoes
- Muskmelons
- Sweet Potatoes
- Tomatoes, ripe

GROUP 4

Temperature = 70°F, Relative Humidity = 60-80%, Crops Tolerant to Higher Temperatures and Lower Humidities

- Acorn/Butternut Squash
- Onions, dry
- Pumpkins
- Watermelons

* Mature green tomatoes will ripen faster when exposed to ethylene from ripe tomatoes. For longer storage, keep with Group 4, but keep humid by covering lugs with wet burlap.

HANDLING INFORMATION FOR VEGETABLES

CROP	*RELATIVE PERISHABILITY	OPTIMUM STORAGE CONDITIONS		**CHILLING SENSITIVE	COMMENTS
		TEMP (°F)	HUMIDITY (%)		
Beans, lima	M	40 to 45	95	Yes	Sprinkle lightly
Beans, pole & snap	H	38 to 42	95+	Yes	Sprinkle lightly
Beets	M	32	98 to 100	No	Sprinkle lightly; remove tops
Broccoli	VH	32	95+	No	Sprinkle lightly
Brussels sprouts	H	32	95+	No	Sprinkle lightly
Cabbage	M	32	95+	No	Sprinkle lightly
Cantalopes	M	38 to 41	95+	Yes	
Carrots	M	32	95+	No	Sprinkle lightly; remove tops; ethylene exposure may cause bitterness
Cauliflower	VH	32	95+	No	Sprinkle lightly
Celery	VH	32	95+	No	Sprinkle lightly
Chard & Collards	H	32	95+	No	Sprinkle lightly
Corn, sweet	VH	32	95+	No	Sprinkle or top ice
Cucumbers	H	50 to 55	95+	Yes	
Eggplants	H	50 to 55	95+	No	Sprinkle lightly
Endive & Escarole	VH	32	95+	No	Sprinkle lightly
Honeydew melons	M	45 to 50	95+	Yes	
Lettuce	VH	32	95+	No	Sprinkle lightly; ethylene exposure may cause russet spotting
Mustard & Turnip Greens	H	32	95+	No	Sprinkle lightly
Onions, dry	L	32	65 to 70	No	
Onions, green	VH	32	95+	No	Sprinkle lightly
Parsley	VH	32	95+	No	Sprinkle lightly

HANDLING INFORMATION FOR VEGETABLES (CONTINUED)

CROP	*RELATIVE	OPTIMUM STORAGE CONDITIONS		**CHILLING	COMMENTS
	PERISHABILITY	TEMP (°F)	HUMIDITY (%)	SENSITIVE	
Peas, English	VH	32	95+	No	Sprinkle lightly
Peas, Snow/ Chinese	VH	32	95+	No	Sprinkle lightly
Peppers, green	H	50	95+	Yes	
Potatoes, Irish	M	55 to 70	90	Yes	If washed, dry thoroughly
Potatoes, sweet	L	55	90	Yes	All open surfaces should be well healed
Pumpkins	L	50 to 60	60	Yes	
Radishes	L	32	95+	No	Remove tops; sprinkle lightly
Rutabagas	L	32	95+	No	Remove tops; sprinkle lightly
Spinach	VH	32	95+	No	Sprinkle lightly
Squash, yellow and zucchini	H	50	95+	Yes	
Squash, acorn	L	50 to 60	60	Yes	Trim close, allow to heal
Squash, butternut	L	50 to 60	60	Yes	Trim close, allow to heal
Strawberries	VH	32	95+	No	
Tomatoes, green	H	70	95+	Yes	
Tomatoes, ripe	VH	50 to 70	95+	Yes	Avoid storage below 50°F
Turnips	M	32	95+	No	Remove tops; sprinkle lightly
Watermelons, whole	L	> 55	80 to 90	Yes	Trim stems close to fruit and allow to heal
Watermelons, sliced	H	32	95+		

* Relative perishability under good storage conditions: L=Low; M=Moderate; H=High; VH=Very High.

** Chilling sensitive crops should not be stored below their optimum temperature.

Adapted from: *Family Farm Series. Marketing for the Small Farmer: Direct Marketing and Quality Control.*

Presentations

An effective presentation requires planning. Consider the following:

*Presentations
let people meet
you and learn
about your
farm.*

- ✦ **Who is your audience?** If you know something about your audience, you will be better able to plan a presentation that speaks directly to them.
- ✦ **When will you speak?** You may make some changes in your delivery if you know you will be appearing at the end of a long line of speakers or after a meal when the audience is sleepy.
- ✦ **Where will you speak?** Try to pick a comfortable setting which is the right size for the number of people you expect.
- ✦ **How will you present your material?** Will you use visuals? A microphone? *(Tip: Avoid using a microphone or darkening the room for slides if the audience consists of less than 40 people.)*

Most presentations are made up of three parts:

- ① the Introduction
- ② the Body
- ③ the Conclusion

The **introduction**, which uses one-quarter of the presentation time, should capture the audience's attention and tell them what you are going to say. It should lead gracefully into the body of the presentation.

The **body** of your presentation contains your real message, and lasts about five-eighths of your time. To organize your thoughts, jot down what you would like to say, then group the ideas together. Put the groups of ideas in a logical order. Practice talking through your presentation, to hear if you should rearrange your ideas, if you need to cut out material, or if it fits the time limit.

*If you relax and
enjoy your
presentation, so
will your
audience.*

The conclusion, the remaining one-eighth of your time, should emphasize your main points in a brief summary and then wrap up your thoughts. Many speakers like to end with a quote or a funny story that sticks in the audience's minds.

When you've organized all your thoughts, practice your speech. It is best not to memorize or write your presentation word for word, but you may want to note certain statements or phrases that you don't want to forget. When you have a firm idea of what you will say, put some polish on your presentation by following these suggestions:

- ✦ **Speak to your audience.** Look at them, respond to them.
- ✦ **Don't worry about what to do with your hands.** Use them naturally.
- ✦ **Watch your posture.**
- ✦ **Make sure you are being heard,** even in the back of the room.
- ✦ **Speak clearly and distinctly,** and try not to go too fast.
- ✦ **Stick to your time limit,** or cut it even shorter.
- ✦ **Group your visuals together,** so that you use them all in one part of your presentation.

If you are using slides, make sure they are clear and in focus. Check out all the equipment before you start, making sure that you can advance the slides, that the screen works, and that the bulb isn't burned out (*keep a spare new bulb with your equipment*). In addition, run through all the slides in the carousel to check that they are positioned correctly.

Finally, to remember something, people need to hear it several times. An organized delivery helps them remember, too. At the beginning, tell your audience what the presentation is about. At the end, tell them what they heard. In between, repeat and emphasize your main points. Most importantly, relax and enjoy the presentation, and your audience will, too.

Family Farm Series

Small Farm Center, University of California, Davis, CA 95616

SMALL-SCALE COLD ROOMS FOR PERISHABLE COMMODITIES

The authors are James F. Thompson, Extension Specialist, Cooperative Extension, and Mark Spinoglio, Graduate Student, Biological & Agricultural Engineering Department, U.C. Davis

Temperature management is the key to maintaining the freshness of fruits, vegetables, and cut flowers after they are harvested. By investing in a cold room, small-scale farmers, packers, or merchants can significantly improve the quality of their produce. This publication describes the choices producers have in buying or building cold storage facilities.

Planning

The cold room should be conveniently located. If its purpose is to hold produce after harvest and before delivery to a wholesaler or retailer, it should be easily accessible from the field. Time lost between harvest and initial cooling can seriously reduce quality. For many commodities, 1 hour at a field temperature of 90° F will reduce quality as much as 10 to 20 hours in storage under proper temperature conditions.

If the cold room is to be used in conjunction with a retail outlet, locate it so produce can be easily moved out from cold storage for sale, as products are sold, and easily returned at the end of the day. In addition, locate the cold room at a site with

good drainage and access to utilities. Also, locate and design it so that it can be expanded as your business grows.

Size of a Cold Room

Cold room size is based on the typical volume of produce (measured in ft³) you would handle from a peak harvest or from a peak sales day. Obtain the storage area needed by dividing the produce volume by the height that produce can be stacked. Shelves can be used to increase the effective stacking height of some products. Add to the storage area enough room for a 6-inch distance between product interior walls to allow for good air circulation and space for aisles. The aisle width is based on the size of the cold room. For small walk-in cold rooms the aisle is a minimum of 3 feet wide. A larger cold room which utilizes pallets for product handling will have a minimum aisle width of 6 feet. Also, to guarantee good air flow, the cold room should be at least 12 to 18 inches higher than the produce, figure 1. If the cold room is used for initial cooling and you are not using forced-air cooling, allow extra room so that the product can be

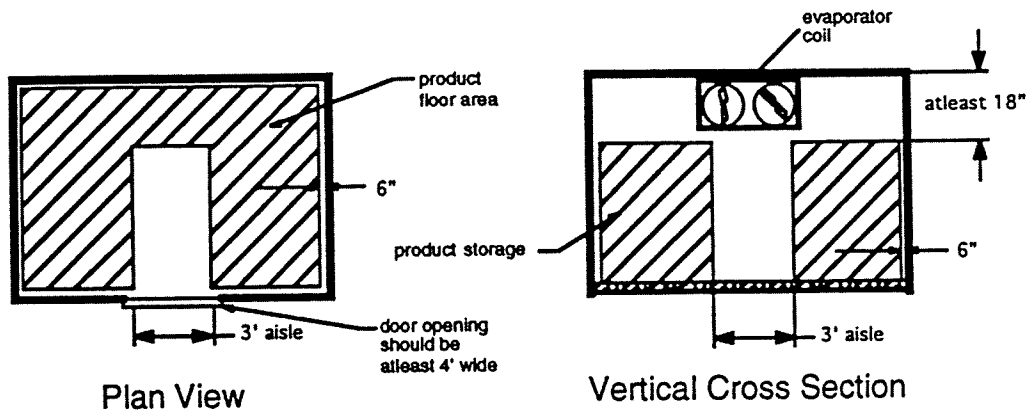


Figure 1. Product placement in smaller cold rooms (about 10' x 12').

spread out for good exposure to cold air. After cooling, the product can be tightly stacked for storage.

Cold rooms can be purchased new or used as prefabricated units, can be operator-built, or made from used refrigerated transportation equipment, such as railcars, marine containers, or highway vans. What you choose should be based on what you can afford, availability of equipment in your area, and the amount of time you can invest in building a structure or modifying transport equipment.

THE CHOICES

Table 1 shows cost estimates for various cold room operations. Evaluated on a per square foot basis, a commercially installed cold room is one of the most expensive choices. Building the cold room yourself is the least expensive, but cost is based only on the cost of materials and does not include the cost of time for planning and construction. Costs of commercially installed cold rooms are significantly affected by the size of the cold room. For example, a small room, 6 x 8 feet, costs about \$160/ft². A 20 x 20-foot room, which has about as much area as one of the highway vans, costs \$45/ft². Highway vans are more expensive than a cold room you construct.

Prefabricated cold rooms

Prefabricated cold rooms are most often bought used from restaurants or stores going out of business or remodeling and from companies that handle used units. The cold room walls are usually assembled in sections. This makes disassembling and assembling to add space or to be sold easier. The sections or panels normally consist of polystyrene insulation covered on either side with metal or plastic. The panels use special attachment systems to allow quick installation. Most prefabricated coolers must be assembled within an existing structure.

Railcars

Railroad companies, reducing their inventory of refrigerated railcars, offer them occasionally to the public for purchase. These cars are very sturdy and were originally well insulated. Refrigeration is run by a 440V, 3-phase electric motor which is, in turn, powered by a diesel engine generator. The generator set can be salvaged and the refrigeration connected to the farmer's electric utility (providing there is 440V, 3-phase power available). Cars have 9-foot, 4-inch-high ceilings, which limit the height that produce can be stacked. Doors on a railcar are located in the center of the side walls, allowing easier access to the product

Table 1. Cost comparison of small-scale cold room choices.

Type of cold room	Equipment materials (\$/ft ²)	Modification and transportation to site (\$/ft ²)	Total (\$/ft ²)
Prefabricated buildings			
Commercially installed (new) *	-	-	45
Commercially installed (used) *	-	-	10-30
Self-constructed ^o	15	-	15
Used refrigerated transport vehicles			
Railcars [«]	6	22-27	28-33
Highway or piggyback trailers [†]	33-45	0	33-45
Marine containers [¶]	30-33	5-10	35-43

*Prefabricated panels with metal interior and exterior sides attached to an insulation board. Building assembled by a commercial contractor, 400 ft² of floor area, 2 hp refrigeration system (add 5 percent if installed outside).

^oWood-frame construction, fabricated with exterior grade plywood interior and exterior surfaces. Installed by grower. Cost includes a contractor-installed used refrigeration system.

[«]Diesel/electric refrigeration system. Diesel generator set can be salvaged. Floor dimensions of a car are 9 x 50 feet.

[†]Diesel powered. Cost of converting to electrically powered refrigeration is \$10 to \$20/ft². If wheels, axles, and suspension assembly are left attached, a truck-bed high dock and loading ramp must be constructed at additional cost.

[¶]Electrically powered, no wheels, axles or suspension system attached. Can be purchased in 20-, 24-, and 40-foot lengths.

compared with marine containers and highway vans, which usually have doors at the end of the unit. The most significant problem that most purchasers have is getting the car from the railroad to the farm site. The car without the trucks is usually lifted by a crane to a flatbed truck for transport to the farm. Another crane is needed at the installation site to place the car. It is possible to devise a method for putting dollies in place of the railcar trucks and hauling the car over the road.

Highway vans

Used refrigerated highway vans, as cold rooms (fig. 2), have one unique advantage: The "cold room" can be portable if the wheels are left on the van. If you change production sites, the cold room can easily be transported to a new location. The refrigeration system is powered directly with a diesel engine, a benefit if utility electricity is not available at the cold room site. Although, engine driven units are often noisy and may disturb neighbors.

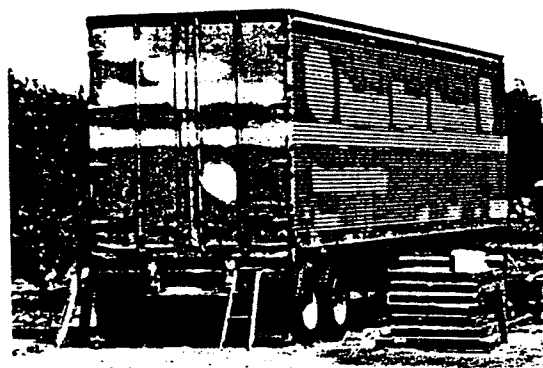


Figure 2. A used highway van as a cold room.

In some areas, it may be less expensive to operate the refrigeration if it is converted to run with an electric motor, but converting is expensive and the cost must be added to the project.

Highway vans and other refrigerated transit vehicles are limited to 3 foot aisles due to their long rectangular shape. To remove the product from the back of these cold rooms an aisle is needed along the length of the cold room, figure 3. This aisle can remove up to 45 percent of the usable floor area.

Because highway vans are built light to maximize the load weight they can carry, used vans are often in poor condition.

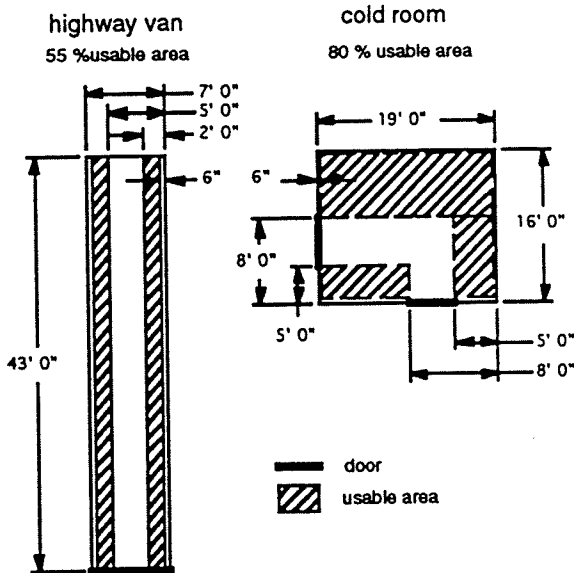
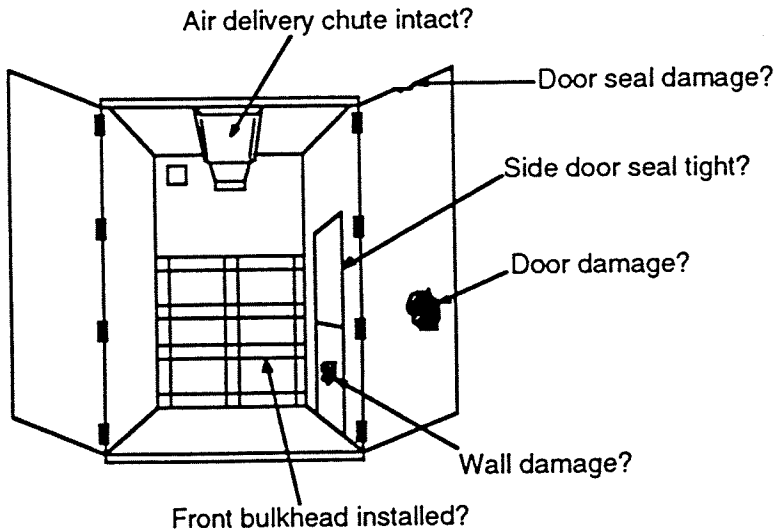


Figure 3. Usable floor area for transit vehicles and a 300 ft² commercially or self-built cold room.

condition. Insulation, limited to begin with, has deteriorated, door seals are poor, and other damage has occurred that permits too much air leakage. Vans in poor condition are less expensive to purchase, but do not provide adequate cold storage and are more costly to operate in the long run. Carefully inspect a used trailer before



Factors to consider when inspecting a used trailer for purchase as a small cold room.

buying it. See figure 4 for details to consider.

The floor of a highway van is usually about 4 feet above the ground; this can cause difficulty in moving products in and out of the van.

Marine containers

These are available in 20-, 24-, and 40-foot lengths. Their built-in refrigeration units are powered with 220V or 440V, 3-phase electricity and they can be plugged directly into utility power. They are usually well built, and have deep t-beam floors and good fan capacity that offers good air circulation. In fact, the air circulation can provide adequate room cooling.

A disadvantage of all transport vehicles is that their refrigeration systems are usually not designed to produce a high relative humidity. Low humidity will cause products to dry out, resulting in weight loss and poor quality. This, particularly, is a problem if the cold room is going to be used for long-term storage. The one way to reduce drying is to keep the floor and walls wet, but this will increase corrosion, reduce equipment life, and increase the need for defrosting.

Product can also be packed in plastic bags or box liners to reduce moisture loss.

Self-built cold rooms

For many producers, a self-built cold room (fig. 5) is the least expensive option. Figures 9a and 9b provide all the basic details for constructing a small cold room. Framing is 2 X 6-inch structural lumber, 24 inches on center with exterior grade plywood covering on the inside and outside. The sole plate (mudsill) and if possible the wall guard should be pressure treated to resist decay due to moisture. The 2 X 6-inch framing allows the use of R-19 fiberglass insulation, which is recommended over the thinner R-11 fiberglass insulation used with 2 X 4-inch walls. Other types of insulation with higher levels of insulation per inch than fiberglass (such as expanded polystyrene or urethane foam) can be used, but they usually cost more than fiberglass for the same amount of R-value.

A vapor barrier must be installed on

the warm side of the insulation. Without a vapor barrier, water will condense on the insulation, which reduces the insulation's effectiveness and may allow dry rot in the studs and joists (fig. 6). A 4- to 6-mil thick polyethylene sheet is a good vapor barrier. The vapor barrier should be installed after the wall and ceiling are framed and prior to installing the exterior plywood covering. Joints should be overlapped at least 12-inches and taped. Staple the vapor barrier to the studs and joists to keep it in place during construction. To create a seal at the base of the wall, silicon should be applied between the vapor barrier and the sole plate metal shield.

A foundation is not necessary for cold rooms built in existing structures and on existing concrete slabs. When a foundation is built heat gain across the foundation should be considered. A rigid insulation is an option and can be applied to the perimeter of the foundation. A 2-inch foam board floor insulation may be used for cold rooms kept at temperatures above

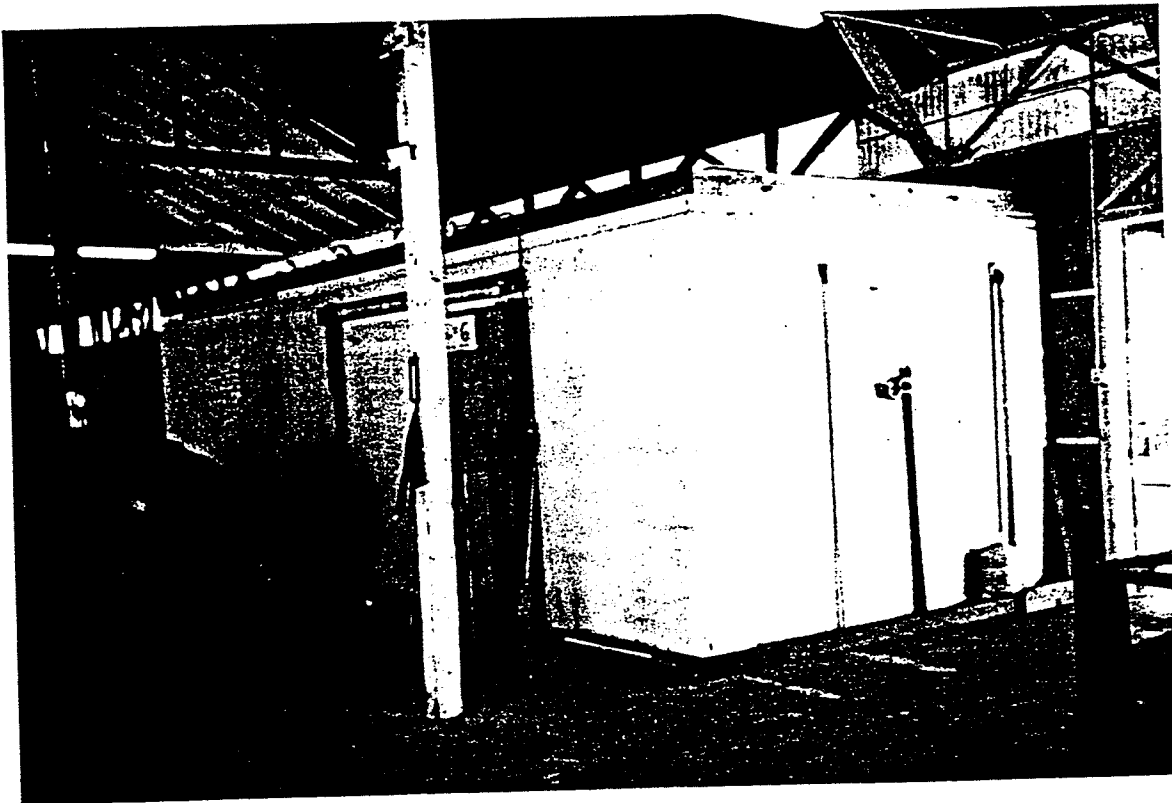


Figure 5. Commercially installed used cold storage facility.

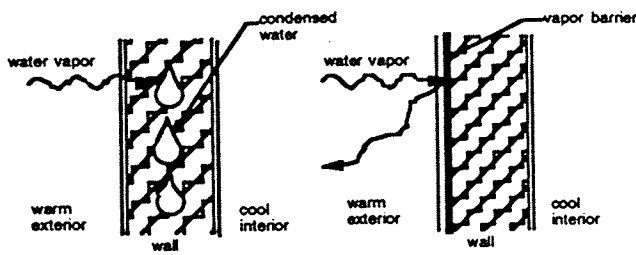


Figure 6. Vapor barrier diagram.

32 °F. The foam board and perimeter insulation are a requirement for cold rooms kept at temperatures below 32 °F. The soil must be protected from freezing temperatures. If the soil freezes it will expand and cause the concrete slab to crack. A vapor barrier is necessary between the concrete slab and soil. The concrete allows moisture through, in the same manner as the walls, and therefore, requires a vapor barrier.

A non insulated, framed, existing structure with a few modifications can be converted to a cold room. A polyethylene vapor barrier needs to be applied to the interior side of the framing to reduce the vapor penetration discussed previously. A 2-, 3-, or 4-inch polystyrene board should be installed against the interior side of the vapor barrier. The thicker the polystyrene board, the greater the wall thermal resistance. The polystyrene cannot be installed on a structure which has existing insulation, due to possible condensation problems caused by the temperature gradient across the wall. An optional 3/8-inch exterior grade plywood can be installed against the polystyrene to protect it from damage. Seals need to be added to all doors to decrease air losses. Most importantly, all locks on the doors must be removed for safety purposes.

Figure 9b shows two types of doors that can be used. Small cold rooms like these permit a great amount of warm air to enter when a door is opened, increasing energy use and, more importantly, allowing the temperature to rise in the room. Infiltration can be significantly reduced by installing plastic or canvas flap doors just inside the wood door. The door width will

vary depending on the producer's needs. If the product is handled on pallets then the door width must be at least 54-inches. Keep in mind, the larger the door the greater the infiltration.

A 3/4-horsepower refrigeration system will generally be adequate for a 100-square foot cold room. Figure 8 provides estimated refrigeration capacity for larger cold rooms. Most cold room sites in California fit within the two climates shown, central valley and coastal. Choose the climate most similar to your proposed cold room site. Determine the optimum size for your cold room, based on floor square feet. Then by knowing your products optimum storage temperature, explained in the following paragraphs, you can approximate the refrigeration capacity need for your cold room. The "tons of refrigeration" allows you to approximate the refrigeration unit's cost. The more tons of refrigeration required the higher the unit cost. The cold room design and operation specifications used to develop figure 8 are footnoted. More capacity would be needed for rapid cooling methods like forced-air cooling.

Products have various optimum temperature requirements. Depending on the product or products being stored and their stage of maturity at time of storage, an optimum operating temperature can be determined. Table 2 lists optimum temperatures for short-term storage of many types of perishable products. A producer that must handle products with very different optimum storage temperatures may require separate cold rooms. If product temperature requirements are not very different, then careful temperature and product management may allow a common cold room to be used.

Higher humidity can be maintained in a cold room if the evaporator coil is oversized. This allows the coil to operate at a relatively high temperature, thereby reducing the amount of condensation on the coil and increasing humidity in the room. This also helps reduce frost build up on the coil. Coils should have a warm water or electric defrost system. If you select a

warm water defrost system, provide a system for draining defrost water outside the cold room. Wood construction will not last long if the wood is wetted frequently and insulation loses its resistance to heat flow if it is wet.

Refrigeration systems must be controlled with an accurate thermostat placed away from the door. Check the thermostat's calibration by placing a remote reading thermometer in the cold room. Install the dial in a convenient location on the outside of the room. Calibrate the thermometer with an ice bath (a stirred mixture of ice and water has a temperature of 32.5°F) and check the thermometer regularly to see that the thermostat is maintaining a proper temperature.

If the cold room is going to be kept above 50-55 °F, it may be possible to use a room air conditioner instead of a packaged refrigeration unit. Air conditioners will build up ice on the cold evaporator coil if they are operated at temperatures below this range. An air conditioner would probably cost about half as much as an equivalently

sized refrigeration unit.

Evaporative cooling can also be used as a substitute for mechanical refrigeration. It will produce air temperatures equal to 2° to 3°F above the wet bulb temperature of the outside air. In the summer in California 65° to 75°F air temperatures can be dependably achieved. Coolers can be purchased as packaged units or self-built from parts available at most hardware stores, figure 7. A self-built cooler requires a pump capacity of 1/3 gallon/min. of water per foot of pad length. The reservoir should have the holding capacity for the pump capacity plus an extra gallon/min. of water per pad linear foot. To achieve the previously stated air temperatures, at least 1 square foot of pad area should be provided for each 150 cubic feet per minute (CFM) of air moved by the fan. The fan capacity is determined by computing the cold room volume. The fan should have the capacity of 0.5 air changes a minute, half the cold room volume. This is the total fan capacity in cubic feet per minute at 1/8 inch static water pressure.

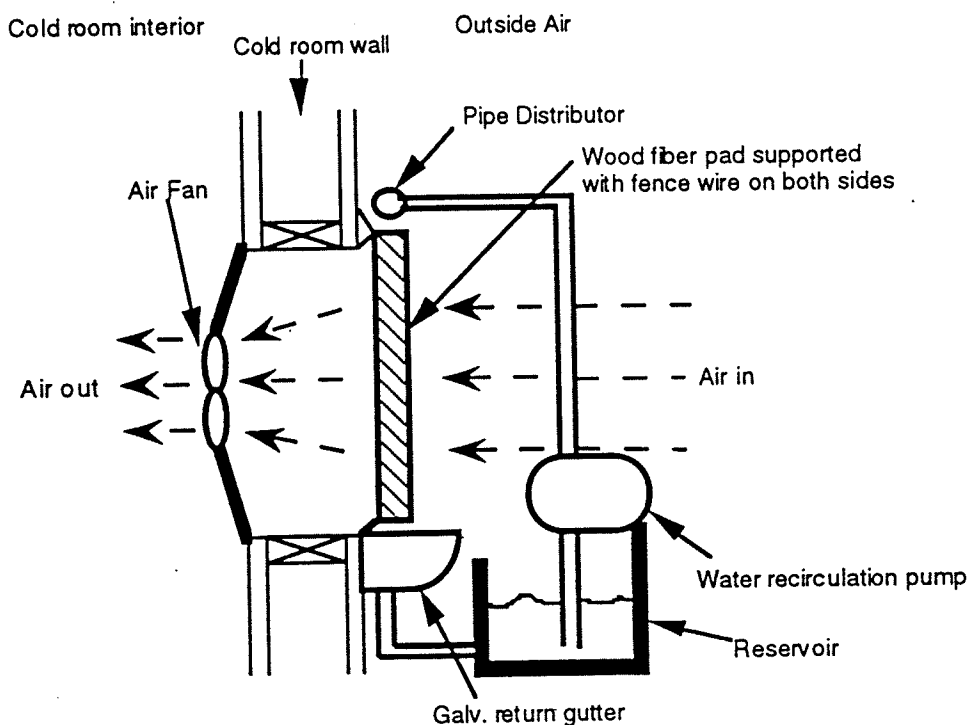
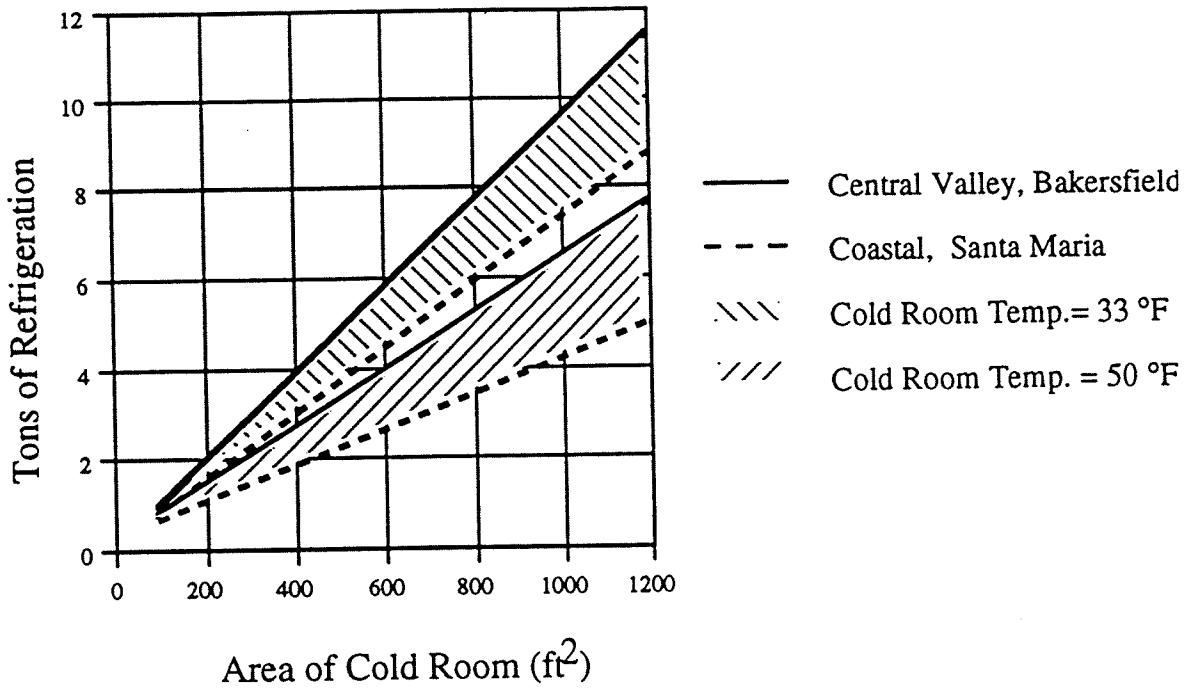


Figure 7. Evaporative cooling unit components.

Approximate refrigeration capacity
(small-scale cold room)



Design/Operation Criteria:

- Ambient conditions:
 - Bakersfield (June) temperature = 100 °F. *
 - Santa Maria (Sept.) temperature = 75 °F. *
- Product heat loss based on Peaches ($C_p=0.91$ Btu/(Lb-°F))
- Constant cold room height of 10 ft. (7 ft. stackable height)
- 50 percent product turnover in 24 hours.
- Product density = 25 Lb/0.5 bu.
- 33 °F cold room:
 - Removed 40 °F of product field heat. (Central Valley) **
 - Removed 30 °F of product field heat. (Coastal) **
- 50 °F cold room:
 - Removed 25 °F of product field heat. (Central Valley) **
 - Removed 15 °F of product field heat. (Coastal) **
- * Based on "Normal Daily Maximum".
- ** Over a 24 hour time period.

Figure 8. Approximate refrigeration capacity for small-scale cold rooms.

In accordance with applicable Federal laws and University policy, the University of California does not discriminate in any of its policies, procedures or practices on the basis of race, religion, color, national origin, sex, marital status, sexual orientation, age, veteran status, medical condition, or handicap. Inquiries regarding this policy may be addressed to the Affirmative Action Director, University of California, Agriculture and Natural Resources, 300 Lakeside Drive, 6th Floor, Oakland, CA. 94612-3560. (415) 987-0097.
 Issued in furtherance of Cooperative Extension work. Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Kenneth R. Farrell, Director of Cooperative Extension, University of California.

Printed on Recycled Paper

Example calculation of refrigeration sizing for a small cold room:

Required Information:

The cold room is going to be located in Yolo County (central valley). This cold room will store pears at 33 °F in boxes stacked seven high. The box dimensions are 11" deep, 11.375" wide, and 18.5" long. The turnover rate is estimated at 581 boxes every 24 hours. Therefore, the cold room holds a maximum of 1162 boxes and 50 % are taken out each day and replaced. Figure 8 is based on a 24 hour 50 percent turnover rate, therefore, all estimates need to be based on 24 hours.

Cold Room Size:

$$\text{Total Number of Boxes} = \frac{(581 \text{ boxes})}{(0.5 \text{ turnover})} = 1162 \text{ boxes}$$

$$\text{Usable Area} = \frac{(1162 \text{ boxes}) \times (11.375" \times 18.5")}{(7 \text{ boxes high})} = 34900 \text{ in}^2 = 242 \text{ ft}^2$$

Assuming 80 percent of the floor area is usable for box storage.

$$\text{Total Area of Cold Room} = \frac{(242 \text{ ft}^2)}{(0.80)} = 302.5 \text{ ft}^2$$

**The cold room size should be 16' by 19' with a loading door and an unloading door as shown in figure 3.

Refrigeration Load:

**The cold room is 300 ft² and is located in the central valley. The room temperature will be kept at about 33 °F. From figure 8 an approximated refrigeration capacity of 3 tons is required.

Example calculation of fan size, pad area, and water recirculation requirement for an evaporative cooler:

Required Information:

The cold room is located in Yolo County (ambient temp. of 100 °F, relative humidity of 30 %). The desired room temperature is about 75 °F. The cold room size is 300 ft² with a ceiling height of 10 feet, figure 3.

Fan Capacity:

$$\text{Volume of Cold Room} = (300 \text{ ft}^2) \times (10 \text{ ft}) = 3000 \text{ ft}^3$$

$$\text{Fan Capacity} = (3000 \text{ ft}^3) \times (0.5 \text{ air changes per minute}) = 1500 \text{ CFM}$$

**The fan capacity should be equal to 1500 cubic feet per minute.

Pad Area:

$$\text{Pad Area} = \frac{(1500 \text{ ft}^3)}{(150 \text{ CFM/ft}^2 \text{ of pad})} = 10.0 \text{ ft}^2$$

**A 3.25 ft by 3.25 ft pad will meet the required 10 ft² area.

Water Recirculation Requirement:

$$\text{Gallons} = (3.25 \text{ ft pad length}) \times (1/3 \text{ gal./min./ pad length}) = 1.1 \text{ gal./min.}$$

$$\text{Reservoir} = 1.1 \text{ gal./min.} + (1 \text{ gal./min.}) \times (3.25 \text{ ft pad length}) = 4.4 \text{ gal./min.}$$

**Reservoir should supply about 4.5 gallons of water.

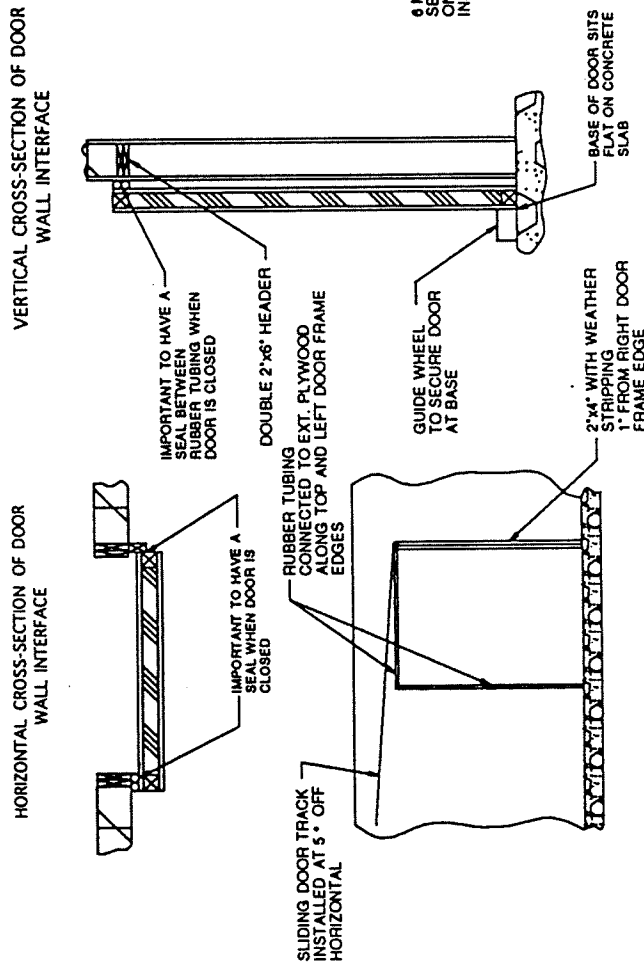
Table 2. Optimum storage temperature for various products.

Temperature after cooling or for short-term storage	Fruits	Vegetables	Flowers
0°C (32°F) or below (but above freezing point)	Apples*, apricots, most berries (except cranberries), cherries, dates, figs, grapes, kiwifruit, loquats, nectarines, peaches, pears, persimmons, plums, prunes, quinces	Artichokes, asparagus, beans, beets, broccoli, brussels sprouts, cabbage, carrots, cauliflower, celeriac, celery, chard, chicory, collards, corn, endive, escarole, garlic, leafy, greens, horseradish, kale, kohlrabi, leeks, lettuce, mushrooms, onions, parsley, parsnips, green peas, radishes, rutabagas, salsify, spinach, turnips, watercress	Carnation, chrysanthemum, iris, lily-of-the-valley, dry rose, sweetpea, tulip
0°-2°C (32°-35°F)	Apples*, oranges	Asparagus, fullslip cantaloupe, southern peas, summer squash, tamarillos	Allium, aster, bouvardia, crocus, freesia, gardenia, gerbera, hyacinth, narcissus, cymbidium orchid, ranunculus, rose in preservative
2°-7°C (35°-45°F)	Apples*, avocados (ripe), cranberries, guavas, oranges, pomegranates, tangerines, mandarins	Cucumbers, eggplant, muskmelons (casaba, crenshaw, honeydew), watermelon, okra, sweet peppers, pumpkins, winter squash, summer squash, taro, ripe tomatoes	Acacia, alstromeria, anemone, aster, bird-of-paradise, buddleia, calendula, calla, candytuft, columbine, cornflower, dahlia, daisy, delphinium, gerbera, gladiolus, gypsophilia, heather, lily, lupine, marigolds, cymbidium orchid, poppy, phlox, primrose, protea, snapdragon, statice, stephanotis, stock, strawflower, sweet william, violet, zinnia, florists' greens
7°-13°C (45°-55°F)	Avocados, carambolas, lemons, limes, papayas, passion fruit, pineapples	Cucumbers, eggplant, muskmelons (casaba, crenshaw, honeydew), watermelon, okra, sweet peppers, pumpkins, winter squash, summer squash, taro, ripe tomatoes	Bird-of-paradise, heliconia, cattleya orchid, sweet william
13°C (55°F) and above	Bananas, grapefruit, mango, plantain	Ginger, jicama, watermelon, sweet potatoes, green tomatoes	Anthurium, ginger, vanda orchid, poinsettia

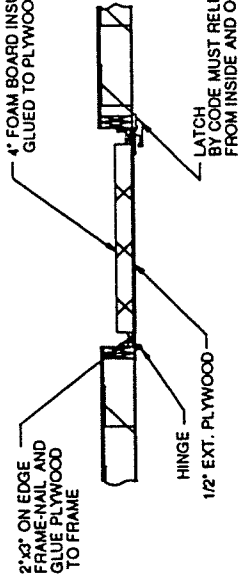
*Apple cultivars vary in their susceptibility to chilling injury.

DOOR DESIGN OPTIONS

OPTION # 1 SLIDING DOOR



OPTION #2 HINGED DOOR

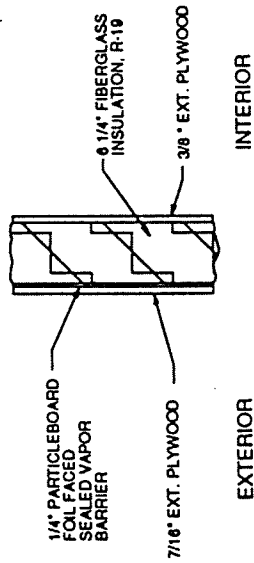


NOTES

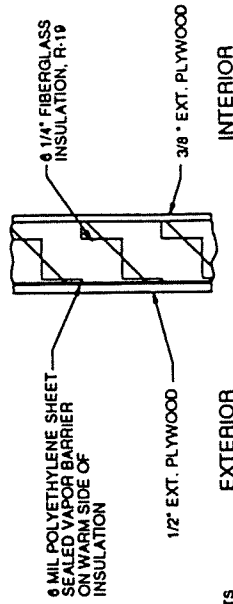
- EXTERIOR WALLS AND CEILING, WHITE, LATEX, NONGLOSSY PAINT.
- INTERIOR WALLS AND CEILING, WHITE, LATEX, NONGLOSSY PAINT.
- ANCHOR BOLTS: 1/2" DIA. DRILLED IN EXPANSION BOLTS.
- ANCHOR BOLTS MINIMUM CONCRETE PENETRATION OF 4".
- SUGGEST DOOR PLASTIC FLAPS FOR ENERGY CONSERVATION.

WALL/CEILING ENVELOPE DESIGN OPTIONS

OPTION # 1 FOIL FACED PARTICLE BOARD



OPTION # 2 PLYWOOD POLYETHYLENE COMBINATION



VAPOR BARRIER NOTES

- OVERLAP POLYETHYLENE SHEET 12 INCHES.
- TAPE SEAMS AND ANY OTHER VAPOR PENETRATION LOCATIONS WITH TAPE.
- SILICON ALL VAPER BARRIER TO SOLE PLATE METAL SHIELD CONNECTIONS

COOPERATIVE EXTENSION SERVICE AGRICULTURAL COLD STORAGE FACILITY

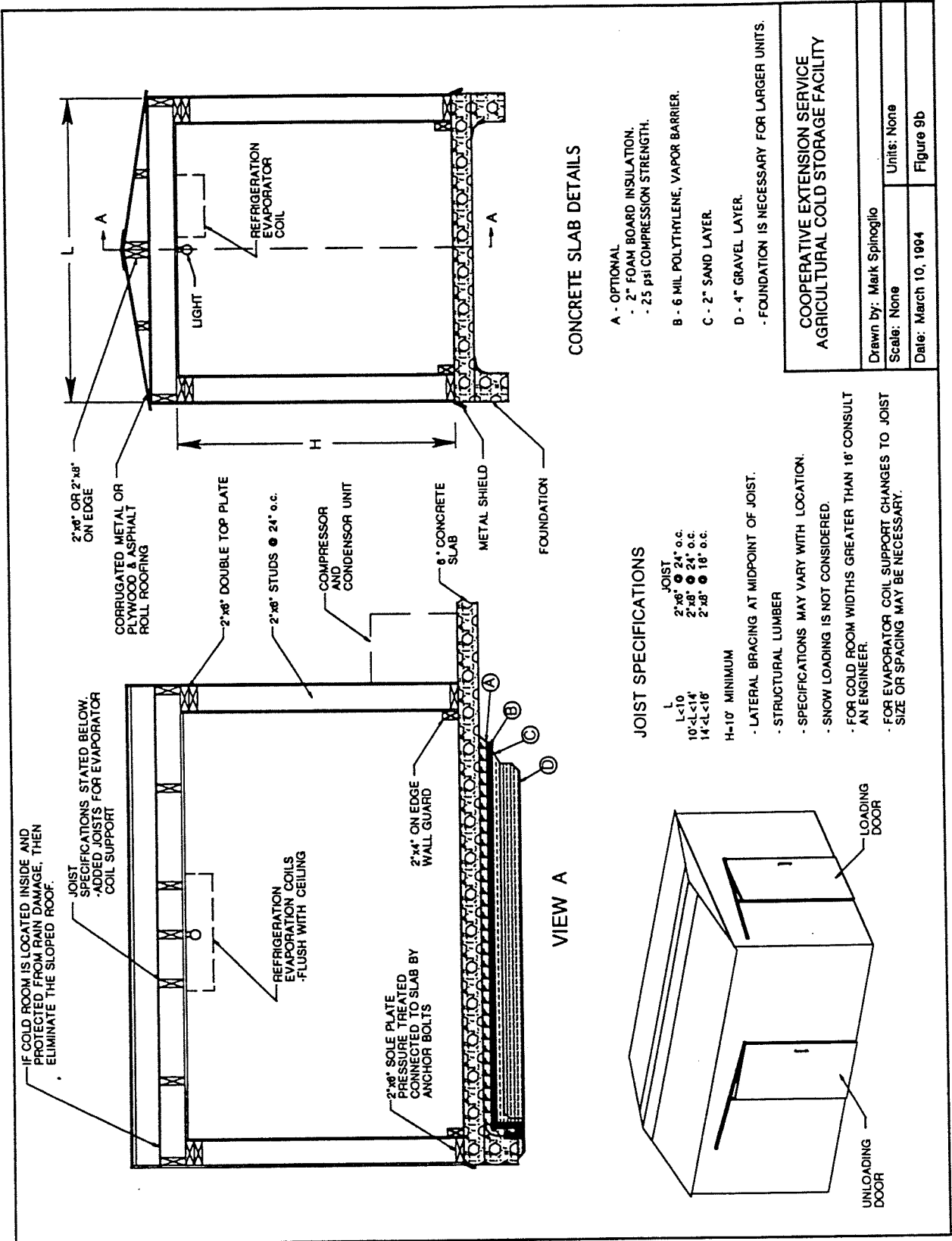
Drawn by: Mark Spingjlo

Scale: None

Date: March 10, 1994

Units: None

Figure 9a



Surveys

*Let members
know what you
learned from
the survey.*

A survey of your members takes a little more effort, but involves them more in their food supply. It doesn't have to be long. It should get members' thoughts on the size of the share, the selection of items, the quality, and anything else you would like to know about the CSA. For example, if you hosted a harvest day, you might want to ask for feedback about it.

Try to get as many surveys returned as possible. You can collect them where members pick up their shares, or have them mailed in. The more surveys you get back, the greater the variety of responses.

Complete the communication loop by writing about the results in the next newsletter. Be sure to say how you are going to respond to the results. If most members say that Tuesday is a bad day for getting shares, then think about changing the day. On the other hand, if one-third say there are too many beets, one-third say not enough, and the rest don't care, then maybe the number of beets is fine. However, let people know that you read and thought about what they wrote.

DESIGN

There are two elements to survey design: the questions, and the layout of the questions on the page.

The questions on your survey should be short and direct. This keeps them from being open to many different interpretations, which makes your results unclear. Rather than having a question with several parts, try breaking it down into different questions.

With each question, you need to decide what kind of answer you want. Some types of answers are:

- ✦ Yes or no
- ✦ A scale of preferences, such as:
never/sometimes/mostly/always *OR*
strongly disagree/disagree/no opinion/agree/strongly agree

- ✦ A ranking of items, starting with what is most important or desirable and going to what is least important or desirable
- ✦ Open answers, which allow members to express their opinions in their own words

The layout of the questions should be simple and easy to use. Make response boxes or lines big enough for people to write in. Number the questions, and have them all start on the left-hand margin.

On the following pages are two sample surveys from CSA farms. They will give you an idea of what to ask and how to ask it. Blank survey forms for your use are included at the end of the chapter *Members*, or you can design your own.

TWIN CREEK SHARED FARM
MEMBER SURVEY WITH RESULTS

Survey Results

The following are the results of a survey that was sent to all 220 shareholders of the farm. The survey was sent out in November 1992 and 140 responses were received by February 1993.

1. How important were the following in your initial decision to join Twin Creek Shared Farm?

ITEM	Of Little or no Import	Somewhat Important	Important or Very Important
Fresh, tasty vegetables	1%	5%	94%
Chemical-free vegetables	4%	8%	88%
Environmental concerns	5%	13%	82%
Support local farmer (share the risk)	3%	17%	80%
Support local economy	1%	19%	80%
Community involvement	27%	35%	38%
Connection to a farm (to visit with your children)	40%	31%	29%
Save money on groceries	43%	36%	17%

2. On the whole, what do you think has been the net financial effect of your participation in CSA? (compared to getting vegetables from the grocery store)

Saved money	27%
Cost money	27%
About equal	16%

Thirty percent of respondents refused to answer, saying this was not an issue for them.

3. What do you feel about the overall quality of the vegetables you received?

Better than supermarket	74%
Same as supermarket	25%
Poorer than supermarket	1%

4. How did you find the system of receiving vegetables as they ripened?

The majority of respondents liked the once a week depot-style delivery. Some commented that the one or two hour pick-up time was not long enough. Suggestions were made to have the depots at someone's house and expand the pick-up time to about 1:00 to 8:00 p.m. Having it at the co-ordinator's house would allow him/her to go about their other household activities while watching the vegetables. Many respondents commented on how "fun" it was to be surprised each week with the various vegetables. Others said that they would appreciate a "weekly forecast" on the vegetables to enable them to plan their menus. A few commented that they learned to plan their shopping trips for the day after the vegetable delivery.

5. Do you wish to receive a share renewal form for 1993?

Ninety-six percent of respondents answered "Yes" to this question.

Adapted from Jered Lawson, *A Community Supported Agriculture Reader*, 1992.

SURVEY FROM ANNANDALE FARM

Annandale Farm Questionnaire

This should take about 20 minutes. We have tried to catch you in person. If you would rather talk to us, please call. "You" refers to you and your family. What's the consensus?

1. Why did you initially choose to be part of Annandale? (Number in order of most important, 1, to least important, 7)
 - a. organic
 - b. fresh
 - c. involvement in the farm
 - d. support local economy
 - e. price
 - f. delivery, convenience
 - g. community (social events)
 - h. Other: _____
2. Do the number thing again, this time for what became the most to least important aspects of the farm.
 - a. organic
 - b. fresh
 - c. involvement in the farm
 - d. support local economy
 - e. price
 - f. delivery, convenience
 - g. community (social events)
 - h. Other: _____
3. Were you satisfied with the quality of the vegetables? How could it be improved?
4. Did you miss or find a lack of any vegetables or herbs? What would you like more of in future?
5. Did you like the element of surprise in what vegetables you got each week?
6. Did you enjoy eating with the seasons, i.e. when the vegetables ripened locally?
7. Did this way of getting vegetables cost or save you time? Was the quality of time spent better or worse than the way you conventionally shop?
8. Can you suggest any improvements to our system of delivery?
9. Was the cost fair? Too high? Too low?
10. Did you enjoy the events at the farm? Can you think of any other activities in which you would like to be involved?
11. Would you like to be more involved next year, for example, with a working share? In any other way?
12. Did you become more aware of how your food is grown? What are some things you have learned?
13. Did you eating habits change? How?
14. Did you get enough vegetables to meet your needs? Please include the number of people in your home.
15. Did you like getting the recipes? Did you use any of them?
16. How would you describe this type of farm to your friends?
17. Is there anything else you would like to share with us?

Adapted from Tamsyn Rowley and Chris Beeman, *Our Field: A Manual for Community Supported Agriculture*, 1994.

Working with Members

FARM ACTIVITIES

With a little effort, you can ensure that your members enjoy working on the farm, and that their time puts you ahead rather than holds you back. The two important tools are **training** and **communication**.

TRAINING

You need to assess members' present skills, then decide what to teach them. They may already know how to handle cut flowers, and so require minimal training to help with your flowers. Also, you may have a number of crops, but teaching them how to harvest only a few will allow them to build their skills.

Training should consist of:

- ① Explaining and demonstrating correct task performance
- ② Helping members to perform the task under supervision
- ③ Allowing them to perform alone
- ④ Evaluating their performance
- ⑤ Coaching them based on your evaluation

Include in this training, instructions on safe working habits and use of equipment. Members should understand the possible dangers of tractors, other machinery, and hand tools such as hoes and knives. Also inform them of other hazards, such as holes in which they can twist an ankle or power lines they could accidentally touch with an irrigation pipe. Finally, show them how to lift with their knees, minimize stooping, and other good work habits.

Once members have mastered a task, they can cement their skills by coaching someone else.

When training, keep the following ideas in mind:

- ✓ Present only a few concepts at a time
- ✓ Where possible divide tasks into simplified components
- ✓ Test the members' understanding frequently
- ✓ Involve everyone
- ✓ Use visual aids with oral explanations (*e.g. samples of defective fruit to watch for*)
- ✓ Encourage questions
- ✓ Give honest praise

COMMUNICATION

Messages sometimes get distorted. People may hear something different from what the person intended, while the speaker sometimes takes it for granted that the message is understood. Other times messages are distorted when they pass through several people.

Remember that communication is on-going and two-way. You will need to check back with people to see if new questions have come up, and to be sure that old questions or problems haven't resurfaced. Also, listening well is an important part of supervising.