

DIRTY FINGERNAILS AND ALL

# Walipini, a place of warmth

BY SIOUX ROGERS



Sioux Rogers

Using the earth's natural underground warmth is not a new concept, but a timeless one. Hmm, do you think plants, such as potatoes, asparagus, and peonies, figured out that going underground in the winter would keep them alive and warm for their spring debut?

Walipini, meaning "place of warmth," is an interchangeable word for underground greenhouse or pit greenhouse. Four to eight feet underground, the earth's temperature is a stable 50 to 70 degrees. The thermal mass of the surrounding earth plus the passive solar energy account for the stability of the soil.

There is documentation of underground structures, called walipinis, being used in South America for a few decades in the early part of the twentieth century. And the use of earth-sheltered greenhouses in the United States was very popular in the late 1800s.

The concept, as I understand it, is multifold. Basically, the pit or underground greenhouse is used to extend the growing season for plants needing warmer weather. This means you can extend the growing season for tomatoes, basil, dill, eggplants, some flowers, cucumbers, melons, squashes, etc. Perhaps even grow dwarf citrus trees year-round. It does not freeze that far underground.

Plants that do fine in cooler weather, such as cabbage, lettuce, broccoli, spinach, carrots, and even potatoes,

can also thrive in an underground greenhouse as they can be kept cool in the summer.

While the underground gardening concept is fascinating, it also makes good economic and ecological sense. I have only read about, but never constructed, a walipini. Thus, this article is exploratory for me and hopefully interesting and wanna-do-too for you.

Building a pit greenhouse sounds daunting, but apparently it is not if one incorporates a few rules and essentials.

Ideally, greenhouses are built four to eight feet underground but need to be at least five feet above the water table or a muddy, sloppy-gloppy mess may ensue.

This project need not be overwhelming nor expensive. Aside from gathering many friends for free labor, nab one friend who



Cover your walipini with plastic or glass panels (i.ytimg.com).

are native stone and/or cinder blocks. Combine them if necessary. If you're not using stone, cinder blocks, or concrete, check with a local hardware store or online about what else might work for below-grade construction.

Placing a French drain is tantamount to a structurally successful Walipini. A good site to educate yourself about French drains is [easydigging.com/Drainage/installation\\_french\\_drain.html](http://easydigging.com/Drainage/installation_french_drain.html). Be creative and do not ever think you can't ask questions.

Clearly, as with chicken soup, every builder of a walipini will have a different recipe. Some designs incorporate a natural

hill slope. Others go straight down with stairs or a ramp. Style and methods will vary with site, exposure, experience, size, and material and labor available.

The entire walipini can be completely passive or you can do a few easy but enhancing additions to ensure success. Don't forget the greenhouse needs to "breathe." According to [greenhousecatalog.com/greenhouse-ventilation](http://greenhousecatalog.com/greenhouse-ventilation), "Ventilation is perhaps the most important component in a successful greenhouse. This is because ventilation serves four major purposes within the greenhouse. First of all, it helps to regulate temperature. It also ensures that your plants get plenty of fresh air that they can use to photosynthesize. Additionally, good ventilation prevents pest infestations and will encourage important pollination within the greenhouse."

In the winter, you can supplement with grow lights or have several black barrels filled with water. The water in the black barrels will warm up and insulate the area while also providing readily available water for the plants.

The next decision is what material to use to frame the greenhouse. Well, consider aesthetics versus function, available material versus labor, and time versus money. Ideally one would use metal hoops, such as those used in large commercial greenhouses, or wood if it is readily available. Cover with plastic of at least .6 ml and/or glass panels.

Be creative; it may not always be necessary to use the commercial material promoted on some websites. Different "recipes" for different folks.

Sioux Rogers • 541-890-9876  
dirtyfingernails@fastmail.fm



Photo, left: Consider native stone, cinder blocks or concrete for walipini walls (permies.com).


Photo, right: Framing of a walipini in progress (1.bp.blogspot.com).



**Ramsay Realty**  
The Applegate Jacksonville Experts  
[www.ramsayrealty.com](http://www.ramsayrealty.com)

7604 Hwy. 238 Jacksonville OR 97530  
Office: 541-899-1184 Fax: 541-899-1772

Evelyn Winningham  
Principal Broker  
cell: 541-951-7055  
evelyn@ramsayrealty.com


CCB# 177466  
NV 42066  
CA 809835

Paul Crean  
541-415-1081



**ACTION ELECTRIC**  
Quality is doing the job right the first time.  
Commercial • Residential • Design Build  
paul.actionelectric@yahoo.com  
P.O. Box 537, Jacksonville, OR 97530

**SILVER LINING**  
Chauncey Romero Designer Jeweler

541-899-8201  
[www.silverliningjewelers.com](http://www.silverliningjewelers.com)  
chauncey@silverliningjewelers.com

by appointment only  
Jacksonville, OR

**Applegate Store & Cafe**  
Deli & Picnic Supplies  
Breakfast • Lunch • To-Go Orders  
Gas • ATM • Espresso  
Beer & Wine  
15095 Hwy 238, Applegate, OR  
541-846-6659




**Horsefeather Farms Ranchette**  
Guesthouse Stayovers B&B  
13291 Hwy 238, Applegate, OR  
Stay at a real country farm on the Applegate River!  
Call for information and reservations:  
541-941-0000  
[www.horsefeather-farms-ranchette.com](http://www.horsefeather-farms-ranchette.com)




**PACIFIC BUILDERS RESOURCE, LLC**

Manufacturer's Rep for:

Structural Insulated Panel Systems  
Excell  
Gerkin  
InsulStone by CastleRock



**Pacific-Builders.com**  
**541-973-3538**