

## TECHNICAL SPECIFICATIONS

### **COVERAGE & DIMENSIONS:**

#925 Cold Air Drain® 2-3 Acres\* Unit Size: 84" x 84" x 72"  
#1550 Cold Air Drain® 6-9 Acres\* Unit Size: 102" x 102" x 96"  
#3510 Cold Air Drain® 12-16 Acres\* Unit Size: 126" x 126" x 120"

\*Depending on severity of situation.

**POWER OPTIONS:** Tractor PTO, Gasoline Engine, Electric Motor, Temperature Controlled Auto Start

**FUEL CONSUMPTION:** 1-3 gallons of fuel per hour.

**DELIVERY:** Units arrive by flatbed truck, almost fully assembled. Built in forklift brackets allow for ease of unloading and transporting into the field.

**SITE PREP & INSTALLATION:** General leveling of placement Location is recommended. No cement pad required.

**PROPELLER:** All aluminum construction, balanced, jig-formed to Provide complex contour needed for high aerodynamic efficiency.

**GEARBOX:** ISO registered (International Organization for Standards), AGMA Rated (American Gear Manufacturers Association), high efficiency right angle bevel gearbox, cast iron housing, aluminum caps, carburized and case hardened gears.

**WIND TUNNEL HOUSING:** Computer designed 8 panel model, CNC (Computer Numerically Controlled) manufacturing, all steel construction, bell inlet specially designed to deliver maximum thrust to propel cold air 300 ft. up, all steel base with integrated forklift brackets to provide complete portability, precision engineered tower supports designed to reduce movement and vibration in tower, cold roll steel shafts with keyways, precision ball bearings with cast iron housings for quiet and smooth operation, quality industrial grade #5 fasteners, electrostatic spray powder coating.

**DRIVELINE:** Balanced 3 piece design, industrial universal joints, safety orange plastic guards, 1 3/8" spline standard tractor PTO yoke, stabilizer bearing, keyway, and set screw.

**WARRANTY:** Shur Farms Cold Air Drain® -3year mechanical warranty. Service provided by Shur Farms Frost Protection® dealers.

Honda® or Kohler® power units-3 year mechanical warranty. Local service provided by hundreds of warranty stations.

**TERMS:** 50% Deposit/50% Prior to Shipping. Check, bank wire, Visa®, MasterCard®, and Discover®, accepted.

## SUSTAINABILITY

### **SAVE WATER!**

The Cold Air Drain® allows you to start watering later and turn off earlier, thereby saving water.

### **QUIET OPERATION!**

Quiet enough for residential areas.

### **ENVIRONMENTALLY FRIENDLY!**

Power units are E.P.A. (Environmental Protection Agency) certified and offer low emissions.

### **RESEARCH!**

Ongoing in-house and field research are done to assure quality products and services meet current and ever changing needs.

### **LEADERSHIP!**

Shur Farms® works closely with growers, agricultural associations. Academic groups, Government and non-profit organizations to teach safe frost protection techniques and assist with local issues.



*Protecting Avocados:  
Saticoy, CA*

## EXPERIENCE

Shur Farms Frost Protection® has over 20 years of experience in frost protection science and cold air removal technology. It designed and installed the first North American cold air drainage system in the late 1990s and began commercially manufacturing and marketing the Cold Air Drain®, in 2001. Since then, it has installed hundreds of systems protecting thousands of acres, making it the leader in cold air removal.

# SHUR FARMS®

## Frost Protection

Division of Recovery P.T. Corporation

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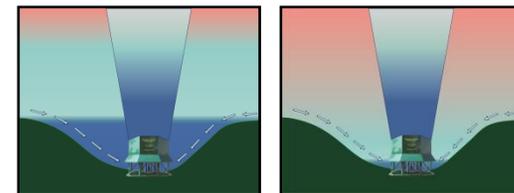
1890 N. 8<sup>th</sup> Street, Colton, CA 92324

# SHUR FARMS COLD AIR DRAIN®



## HOW IT WORKS

Shur Farms Cold Air Drain® pulls in the heaviest, coldest air layer that naturally settles along the ground. Using a state of the art propeller, inside a specially designed bell inlet wind tunnel, the cold air is thrust upward to a height of nearly 300 ft, allowing the warmer air from above to settle downward.



As the coldest air is sent up, it collects and mixes with the warmer lighter air from above. This allows it to continue rising higher until it is dispersed into the upper inversion layer. Thus, the coldest air is being "drained", and will not fall back down.

The Cold Air Drain® effect changes the microclimate in the lower frost prone areas to the same as the higher no-frost areas. The grower can expect the same yields in all areas of the vineyard/orchard.

## APPLICATIONS

### Cold Air "Lakes", Frost Pockets, and Accumulation Areas

Without having any drainage, the freezing air fills an area, similar to a bowl or lake.



Protecting Blueberries:  
Kettleman City, CA

### Rolling Hills

Frost settles in low areas creating numerous frost prone patches.



Protecting Cherries: Pasco, WA

### Swales and Canyons

A flow of freezing air is funneled into an area such as a swale or canyon causing a build up of cold air.



Protecting Wine Grapes:  
Paso Robles, CA

### Sloped Areas

Freezing air moves downhill and builds up along a canal bank, reservoir bank, berm, elevated road, trees and shrubs, or other obstruction.



Protecting Apples:  
Simcoe, Ontario, Canada

### Flooding

Flooding occurs when cold air accumulates below an orchard, builds up, and then overflows the contained area.



Protecting Palm Trees:  
Camarillo, CA

### Flat Areas

To drain cold air from flat areas, artificial or natural barriers surrounding the growing area may be necessary. This contains the cold air and allows for its removal with the Cold Air Drain®.

## FINANCIAL BENEFITS

### LOW OPERATING COST!

Shur Farms Cold Air Drain® has the lowest operating costs of any active frost protection method. Most systems will have a 100% payback in the first year of operation.

### SIMPLE INSTALLATION!

The Cold Air Drain® arrives almost fully assembled, requires little site prep, and is easily put in place using a standard forklift or tractor.

### SAVE FUEL AND REDUCE EMISSIONS!

It uses just 1-3 gallons of fuel per hour. That's 1/10 of the fuel needed to operate a traditional wind machine.

### VERSATILE!

Shur Farms Cold Air Drain® is stand alone frost protection, or may be used with water, wind machines, and heaters to enhance their benefits. It is available in three sizes (covering from two acres on up) and has numerous power options (tractor PTO, gasoline engine, electric motor, temperature controlled auto start).



Protecting  
Walnuts:  
Red Bluff, CA

### CUSTOMIZED SYSTEMS!

For each project area a computerized frost analysis and customized system design is offered, thereby eliminating possible guesswork and overspending that often accompanies the purchase of frost protection.

### VIRTUALLY MAINTENANCE FREE!

This aesthetic, low profile unit is easily owner maintained.

### EVENS BUD BREAK!

The Cold Air Drain® evens out temperatures and bud break.

## PRICES

PART #	DESCRIPTION	PRICE
925	<b>SHUR FARMS COLD AIR DRAIN®</b> PTO-Requires min. 10hp @ 450 rpm Covers approx. 2-3 acres (depending on severity of situation).	<b>\$ 7,695.00</b>
<b>OTHER POWER OPTIONS</b>		
EM1	Electric Motor, 1ph, 230V	\$ 2,495.00
EM1/AS	Electric Motor, 1ph, 230V W/Temperature Controlled Auto Start	\$ 5,190.00
H9	Honda Gasoline Unit, 9hp	\$ 2,495.00
H15/AS/2.5	Honda Gasoline Unit, 15hp W/Temperature Controlled Auto Start	\$ 6,395.00
1550	<b>SHUR FARMS COLD AIR DRAIN®</b> PTO-Requires min. 15hp @ 540rpm Covers approx. 6-9 acres (depending on severity of situation).	<b>\$ 9,890.00</b>
<b>OTHER POWER OPTIONS</b>		
EM3	Electric Motor, 3ph, 230/460V	\$ 2,795.00
EM3/AS	Electric Motor, 3ph, 230/460V W/Temperature Controlled Auto Start	\$ 5,490.00
EM1-10	Electric Motor, 1ph, 230V, 10hp	\$ 3,795.00
EM1-10/AS	Electric Motor, 1ph, 230V, 10hp W/Temperature Controlled Auto Start	\$ 5,995.00
HVT20	Honda V-Twin Gasoline Unit, 20hp	\$ 3,495.00
H15/AS/5	Honda Gasoline Unit, 15hp W/Temperature Controlled Auto Start	\$ 6,395.00
3510	<b>SHUR FARMS COLD AIR DRAIN®</b> PTO-Requires min. 35hp @ 540rpm Covers approx. 12-16 acres (depending on severity of situation).	<b>\$15,800.00</b>
<b>OTHER POWER OPTIONS</b>		
V35	Vanguard Gasoline Unit, 35 HP	\$ 5,490.00
<b>ARTIFICIAL BARRIERS</b>		
CS1.5	5 ft. x 15 ft. Non-Permeable Barrier	\$ 18.05
CS2.0	7 ft. x 15 ft. Non-Permeable Barrier	\$ 24.05
CS3.0	9 ft. x 20 ft. Non-Permeable Barrier	\$ 37.60
AB-CA15	Cable Kit, 15'	\$ 41.95
AB-CA45	Cable Kit, 45'	\$ 53.95
AB-CA60	Cable Kit, 60'	\$ 65.95
AB-CA75	Cable Kit, 75'	\$ 77.95

Prices subject to change without notice.