### An Educational Video:

"Pots with Pizazz"

# A Senior Project

presented to

the Faculty of the Agricultural Education and Communication Department

California Polytechnic State University, San Luis Obispo

In Partial Fulfillment
of the Requirements for the Degree
Bachelor of Science

By

Richard Garcia, Coleen Gravem and Nury Mendoza

March 2012

#### Abstract

The purpose of this senior project was to create an educational video based upon 
Pots with Pizazz, lightweight cement garden pots created at California Polytechnic State
University, San Luis Obispo. The video was created in the hopes that high school agricultural educators will include this educational video in their lesson plans. This video should be used to help students gain hands-on experience with pottery materials, and to learn the concepts of plant propagation using the pots they created. It will also enhance the learning environment for students, and the resulting pots can be used as supervised agriculture projects at the high school level. This project includes an instructional video as well as an accompanying handout, with extensive research on video editing, the history of pottery, and the materials involved in pot making.

# **Table of Contents**

Abstract	i
Acknowledgement	V
Chapter 1 – Introduction	1
Statement of Problem	1
Importance of Project	1
Purpose of Project	2
Objectives of Project	2
Definition of Important Terms	3
Summary	
Chapter 2 – Literature Review	4
Video Production	4
Video Equipment: Cameras	4-6
Video Equipment: Recording Format	6
Video Equipment: Lighting	6-7
Video Editing: Software	7
Video Preproduction: Script and Storyboard	8
Pottery: History	8-9
Pottery: Properties	9-11
Interview with Professor Dan Lassanske	
Chapter 3 – Methods and Materials	13
Camera	
Video Editing	13-14
Video Editing Process	14
Voice Over Script	14
Recording Process	14-15
Instructional Aid	15
Storyboard	15-16
Accompanying Handout	16-17
Conclusion	
Chapter 4 – Video Production	19
Script	20-22
Handout	23
Making Your Very Own Pot with Pizazz	24-25
Chapter 5 – Summary, Recommendations and Conclusions	
Summary	26
Recommendations	27-28
Conclusions	28
Bibliography	29

# **List of Tables**

Table 1 – Comparison of features between Terra-Cotta Pottery and Porcelain	2
--	---

# Acknowledgment

The authors appreciate the extensive support and information provided by Mr. Dan Lassanske, a professor emeritus of horticulture at California Polytechnic State University, San Luis Obispo. He is the creator of *Pots with Pizazz* and allowed the authors to participate in, learn from, and film his procedure. His creations can be purchased at the Poly Plant Shop on Cal Poly's campus.

### Chapter 1

#### Introduction

The authors of this senior project will produce an educational video about horticultural pot making for high school agriculture teachers to utilize. This video will describe step by step the procedure and the necessary ingredients for developing a natural looking pot. The research will begin with the analysis of video production, followed by the history of ceramics, the properties of vermiculite, perlite, peat moss, cement, and lastly end with an interview with the creator, Dan Lassanske.

#### **Statement of the Problem**

People enjoy decorating their gardens with aesthetically pleasing flower and plant arrangements; this could include landscape designs with appealing pottery –such as Lassanske's *Pots with Pizazz*. These pots are durable, light weight pots made with natural materials. A problem with achieving this display is that there is not enough knowledge about sustainable pot making, which means that the pot is lightweight, made with organic materials, and appeals to the eye.

#### **Importance of Project**

Due to the fact that there is not much work published on the subject of horticulture pot construction, the authors have found it necessary to do so. By creating this video the authors will be showcasing the art of pot making in the classroom. In addition, this type of pot making combines an artistic element not often found in agriculture curricula, which makes it unique. *Pots* 

with Pizazz are not only fun to make, but they are made from common materials and easily formed into works of art by the everyday student. Educators can use this video as an addition to their classroom curriculum if properly implemented.

### **Purpose of the Project**

This project was developed to create and educational video featuring *Pots with Pizazz*, a lightweight cement garden pot created by Professor Dan Lassanske at California Polytechnic State University, San Luis Obispo. The authors hope that this video becomes a staple in curriculums for high school agriculture teachers around the country.

### **Objectives of the Project**

The objectives to accomplish the purposes of this project are:

- 1. To clearly lay out the processes and procedures of creating sustainable garden pottery.
- To create an educational video to educate high school students about sustainable pot making.

### **Definition of Important Terms**

- Charged-Coupled Device (CCD): Allows for the move of electronic charges, in order to capture multiple pictures per second to add clarity.
- *Ceramics*: A material from silicates (clay) hardened by heat and comprised of the four basic elements: earth, air, fire and water. Comes from the Greek word "keramos" which means "burned stuff".

- Digital Video (DV/MiniDV): The type of camera that uses a digital video tape which comes in regular and Mini sizes.
- *Non-Vitrified*: A clay material formed under heat that do not have glassy, non-porous elements—the *Pots with Pizazz* have about a 30% porosity rate compared to porcelain, which is between 0% and 1% porosity (Rice, 1987).
- *Perlite*: Grayish to white mineral used in horticulture to increase drainage and aeration of a soil mixture.
- Peat Moss: Found in swamps or bogs; has a high water holding capacity.
- *Storyboarding*: A rough outline of how the video will be filmed.
- *Terra-cotta pottery*: A relatively course, porous ware fired at a low temperature, roughly 900° Celsius.
- Vermiculite: Brownish to yellow mineral is light weight and holds water.
- *Voice Over*: A person's voice is used to narrate scenes off screen. Used as a video editing technique.

### **Summary**

This senior project discusses the importance of pottery in agriculture and the steps of producing educational videos. To do this, the authors have researched the history of pottery and ceramics, the properties of the materials used in sustainable pottery, and video production. With the help of Dan Lassanske, the paper reflects on the steps to making *Pots with Pizazz*, sustainable pots comprised of cement made from natural earth resources. In order to educate the public and high school agriculture students on the topic, the authors have compiled a video to be shown in the classroom, along with an explanatory handout.

### Chapter 2

#### **Literature Review**

The Literature Review includes extensive research on the topics of video production, video equipment, video editing, video preproduction, the history of pottery, the properties of pottery, and an interview with *Pots with Pizazz* creator, Professor Dan Lassanske.

#### **Video Production**

The art of video production has transgressed very far from 20 years ago to now. In the past it was necessary for a perspective filmmaker to spend thousands of dollars on video editing software alone (Fauer, 2001). Now, in the electronic era, most computers come with some form of video editing software, so it is simple for anyone to produce a video. However, when making a high quality video today, many other factors are involved such as: choice of video equipment (camera, type of dv tape, media cards, lighting, etc...), choice of video editing software, and storyboard. Video is very effective at getting a certain point across. Furthermore, with proper selection of equipment, editing software, and a well-developed storyboard, the message can be even more powerful.

#### **Video Equipment: Cameras**

When considering the type of video equipment to use in a particular film, one must first address what type of camera they are going to use (Rysinger, 2005). The camera that is ultimately chosen should have all the video features that are necessary to create a high quality

film. However, this could prove difficult because there are so many cameras on the market with differing features. The most common brand names of cameras are Canon, JVC, Sony, and Panasonic. Each brand has a wide variety of camera types as well as special camera features specific to each brand. The Canon brand has a Progressive Scan CCD feature that creates 60 full framed images per second, and it repeats each frame twice so that the picture created is clearer to the viewer (Rysinger, 2005). JVC has a specific Spline Interpolation feature, which allows the video editor to zoom in on a specific area during video playback. Sony, being arguably the best camera producer, has many features that are appealing to filmmakers. One of these features is advanced HAD CCD, which reduces video signal noise adding clarity to the video. Other features of the Sony cameras are the Carl Zeiss and Aspherical lenses (Rysinger, 2005). These lenses are specially coated to reduce optical distortion and reduce glares and flares encountered when making videos. Each brand has special features in order to separate them from the other brands, however, the choice of camera should be based on the video's specific needs, not features that one camera has over the others.

Cameras can range anywhere from a \$20 mini pocket cam to an \$8,000 professional 3CCD camera (Camcorder Buying Guide, 2010). The advantages of a less expensive camera (\$20-\$250) are that they are light-weight, cheep, and can be found just about anywhere.

Unfortunately, these cameras have a short recording time (depending on the recording format), short battery life, relatively poor video quality, and are unable to be customized with lenses, lights, and microphones. Mid-range priced cameras (\$250-\$800), like the lower end cameras, are also light weight, but they are able to record for longer periods of time (DV or Flash Card), and some are able to attach a microphone or light for increased video production quality (Camcorder Buying Guide, 2010). However, these cameras do not have interchangable lenses. High-end

cameras (\$900 and up) are the most common choice for professional filmmakers. The amount of video recorded on these cameras is customizable, in addition to a built in memory, and they have the ability to upgrade to more memory. Another advantage of these cameras is their ability to interchange lenses, microphones, and light settings. All high-end cameras use 3CCD which is the cameras ability to take one frame and separate it into three frames (Red, Green, and Blue), then reconsolidate them to create one extremely clear image (Fauer, 2001). The only drawbacks to these sophisticated pieces of equipment are their price, weight, and store availability, and the user must be educated in its functionality as well.

### **Video Equipment: Recording Format**

As of now, a filmmaker can purchase a camera in several different recording formats, but the easiest for editing purposes are DV/Mini DV, and Flash. DV stands for Digital Video, and the recording apparatus is a cassette tape. Mini DV is the same as standard DV, however it is a smaller cassette, and the recording time is slightly less than that of a standard DV. The standard DV tape can record about 3 hours of audio and video, while a mini DV can record about an hour (Fauer, 2001). The flash card format is basically a memory card that ranges from 2 gigabytes to 64 gigabytes. In a high resolution setting the camera can record 30 minutes on the 2 gigabyte card and 640 minutes on the 64 gigabyte cards. The advantage to flash memory cards is that the camera need not be present when transferring the video to a computer.

#### **Video Equipment: Lighting**

Lighting is often overlooked by filmmakers when producing a film. With use of proper lights and lighting techniques a filmmaker can make their production better by glorifying certain

attributes of the scenery to create a more professional look to their production (Rysinger, 2005). When considering lighting, one must first choose which type of bulb to use. The three typical types of bulbs used are Tungsten lights, HMI lights, and Florescent light. Tungsten and HMI lights are considered to be "hot lights" in the film industry because they emit a great amount of heat, approximately 3,200 kilowatts and 5,500 kilowatts, respectively (Rysinger, 2005). Florescent lights, on the other hand, are considered "cool lights" because they generate significantly less heat than the Tungsten or HMI lights. Once the choice of bulb is made then the filmmaker must choose the fixture in which the bulb will fit into. The most common fixtures are Ellipsoidal light, which is known as a spotlight, and Broadlight, which is a floodlight. Others include Fresnel lights that have a lens with concentric rings which create mood lighting, and cyclight, which are used for large studio backgrounds.

### **Video Editing: Software**

When all the video footage has been recorded, a filmmaker will spend many hours editing using one or more video editing programs. As stated in the introductory paragraph most computers come with a video editing program built in. Apple computers come with IMovie, and Windows based computers have Windows Movie Maker. Alternatively, there are many other video editing programs that can be bought or downloaded online, the most popular being Final Cut Pro (for Apple), Avid Media Composer, Adobe Premier Pro, and Sony Vegas Pro (Seigchrist, 2011). For the purpose of this section the authors will refer to IMovie and Windows Movie Maker as low-end programs and the others as high-end programs. Before the proper program is chosen, the filmmaker must first consider what exactly this program will be used for. If the movie simply requires basic transitions, music, titles, and minimal video enhancement then the

low-end programs will suffice. The high-end programs have the ability to do all that the low-end programs can, plus green screen manipulation, advance transitioning, advanced video filters, scene alterations, and much more. Each program also has specific functions that others do not, however it comes down to the preference of the filmmaker when choosing the right program (Seigchrist, 2011). The only other difference between the high-end and the low-end programs is the pice. All of these programs are in the range of \$400 to \$1000 depending on retail location.

#### **Video Preproduction: Script and Storyboard**

When creating a high-quality video the filmmaker must first build a storyboard (Rysinger, 2005). A storyboard is an outline of how the video should look when finished, and is created prior to any filming. The filmmaker can get a good sense of what lighting, video settings, audio settings to use, and understand, generally, how the video should flow after a storyboard has been created. If done correctly, the filming and editing processes should come with ease.

A developed storyboard typically creates a rough sketch of each scene that the filmmaker wants to portray. In each sketch the filmmaker shows what type of shot will be used on the subject, as well as lighting and other filmmaking techniques. Also involved in preproduction is the development of the script, which includes the proposal (short summary of your video), the Treatment (full story and character development), the Screenplay (Script/Dialogue), and the voiceover script (Rysinger, 2005).

#### **Pottery: History**

The first synthetic material to be created was pottery. It is the oldest known man-made material—dating as far back as 30,000 B.C. to Czechoslovakia (Rice, 1987). The Greeks saw it

as a combination of the four basic elements: earth, air, fire, and water, and the word ceramics roots from the Greek word keramos, meaning "burned stuff". Ceramics is a material from silicates (clay) hardened by heat. From an archaeological perspective it is broadly called pottery, but in art it is narrowly referred to as ceramics. For the sake of this senior project the authors will use the two terms interchangeably as the two are so intimately related.

Ceramics have been used in everything from prehistoric cuisine preparation to the 21<sup>st</sup> century aerospace industry. The first pottery and holding vessels made of clay were created between 10,000 and 9,000 B.C. ("History of Ceramics"). For this senior project the pottery discussed is a non-vitrified substance meaning that it is clay materials formed under heat but it does not create a glassy, non-porous material—the pots have about a 30% porosity rate compared to porcelain, which is between 0% and 1% porosity (Rice, 1987). The *Pots with Pizazz* are defined as a terra-cotta pottery meaning they are a relatively course, porous ware fired at a low temperature, roughly 900° Celsius. Table 1 shows a comparison of features between terra-cotta pottery and porcelain.

Table 1 - Comparison of features between Terra-Cotta Pottery and Porcelain

Body type	Porosity	Firing Range	Typical	Comment
			Applications	
Terra-Cotta	High: 30% or	Well below	Flower pots, roof	Unglazed,
	more	1000°C	tiles, bricks,	course, and
			artware; most	porous
			prehistoric	
			pottery	
Porcelain	Less than 1%;	1300-1450°C	Fine tableware;	Hard body; fine,
	often nearly 0%		artware; dental,	white,
			electrical, and	translucent;
			chemical	"rings" when
			equipment	tapped

(Rice, 1987)

### **Pottery: Properties**

When constructing a *Pot with Pizazz* it is important to include vermiculite, perlite, peat moss, cement and water. All these elements are crucial for the development. Vermiculite is a mineral that was discovered in Worcester, Massachusetts. Vermiculite is a shiny mineral giving the pot specs of shimmer. When exposed to a flame, vermiculite expands into different forms. If it expands below ten times its original volume it is considered low grade ("Minerals Zone", 2005). The advantage of vermiculite is that it is "very light weight and has a high water holding capacity" (Ruiz). Vermiculite copes very well with cement and heat. These properties help develop the pot.

The physical characteristic of perlite is its gray to white color. Perlite is a naturally occurring siliceous rock. Similar to vermiculite, perlite also expands when it is heated, but it can expand from four to twenty times its original volume. The reason it expands is due to the presence of two to six percent combined water in the crude perlite rock. When perlite is heated at an extremely high temperature the crude rock pops. Perlite receives its white color from the exposure to heat causing it to expand ("Perlite", 2011). Perlite is utilized in construction, horticulture, and industrial applications. Perlite is used as an aggregate in concrete. In addition, perlite's characteristic of light weight allows it to be used as loose-fill insulation in masonry construction.

In construction, the "free-flowing perlite loose-fill masonry insulation is poured into the cavities of concrete block where it completely fills all cores and crevices" ("Perlite", 2011). In horticulture perlite is used in soilless growing mixes. Perlite provides drainage, aeration and moisture retention for plant growth. Industrial applications of perlite consist of fillers for plastics, cements for petroleum and so forth. ("Perlite", 2011). Perlite is an exceptional mineral because it is applicable in more than one method.

Peat moss is a brownish coarse substance. It is a "soil amendment made of decayed, compacted Sphagnum moss. The peat is collected from marshes, bogs, or swamps. Peat has a very high water holding capacity (Ruiz). Sphagnum moss bogs form in areas with high rainfall and low temperatures, or poor drainage ("Sphagnum Moss", 2011). The bogs can be found in areas of Canada and Northern America. The ecological area where sphagnum moss grows and reproduces is crucial because without bogs or swamps there would be no moss.

The addition of cement hardens the pot. "Cements set and harden by reacting chemically with water. Through a chemical reaction called hydration, the cement combines with the water to form a stone like mass, called paste. As soon as the paste is added to the aggregates, such as sand, gravel, and crushed stone, it acts as an adhesive and binds the aggregate together to form concrete" ("Cement and Concrete Basics", 2011). There are various forms of concrete; ready-mixed concrete, precast concrete, and concrete masonry. Ready-mixed concrete is the most common form. It's batched at local plants for delivery in trucks with revolving drums. Precast concrete products are manufactured in factories. Precast products include concrete bricks, paving stones to bridge girders, and structural components. Concrete masonry is another type of manufactured concrete. It is known for its 8 x 8 x 16-inch rectangular block. Other uses include retaining walls, chimneys, and fireplaces. ("Cement and Concrete Basics", 2011). Cement and water glue together the vermiculite, perlite and peat moss. It makes the pots strong and durable.

#### Interview with Mr. Dan Lassanske

When vermiculite, perlite, peat moss, cement and water are added together, the final product is a light weight oval pot. The creator, Dan Lassanske, is passionate about these pots and he expresses his opinion and thoughts through a serious of questions that were conducted in an

interview. Lassanske's influence for pot making began three years ago with the idea of whether or not he could use horticultural products and mortar to create a "natural looking and light weight pot" (Lassanske, 2011). He noticed the various pots sold at retail stores and realized they all have an earthly color, texture, and non glazed appearance, but the pots are heavy. To accomplish a light weight pot Lassanske experimented with peat moss, perlite, vermiculite and mortar. The end result was what Lassanske had sought out to accomplish. People instantly fell in love with the pots.

In addition, since many people loved the aesthetic look of the pot, retail store, Spencer's, and a nursery down south continually ask Lassanske to ship pots over. These pots can be sold individually or with plants included. Any plant can be inserted in the pot, but they are "terrific pots for succulents because they drain well" (Lassanske, 2011). The disadvantages to these pots are time and "price resistance" (Lassanske, 2011). For example, when five succulent plants are sold with the pot, it cost roughly twenty dollars plus the addition of the ingredients, pot, and time it takes to create a pot totals to fifty dollars. People assume these pots cost cheap simply because Cal Poly students help make them and they work for free, but the cost of dyes and materials needs to be taken into account (Lassanske, 2011). These pots are carefully made to satisfy the consumer's needs.

Lassanske enjoys creating new designs, adding dyes to the mix, painting the pots, and imprinting leaves on the pot. These pots are very popular right now and will continue to increase popularity due to its natural light weight feel.

#### Chapter 3

#### **Methods and Materials**

When developing an educational video there are many options to consider: Which camera to use; which editing system; whether or not to make an accompanying worksheet; voice over or subtitles, etc. The authors did extensive research in these areas to come up with the best solutions to these questions, within their means. Choosing the right equipment was crucial to this senior project as well as understanding all materials and methods surrounding pottery and filmmaking.

#### Camera

The authors chose the JVC GZ-MU 730U video camera because it met all of the necessary criteria for a high quality video, including advanced image stabilization, recording in 1080p high definition, a built in 30 (GB) gigabit hard drive, the ability to shoot still frame pictures, and it can format the videos in MPEG-2 layout. The high definition and advanced image stabilization allowed for clear video footage, while the MPEG-2 format allowed the authors to edit the video with ease in almost any video editing program. Finally, the 30 GB hard drive provided the authors with up to ten hours of footage, as well as the ability to take still images while recording. This camera was available through the Media Distribution Services (MDS) at California Polytechnic State University San Luis Obispo (Cal Poly) free of charge.

### **Video Editing**

After researching the many video editing programs available, the authors chose iMovie. This software has all the features needed to produce an educational video including transitions, separation of audio and video tracks, and an easy to use drag and drop interface. This program

was also available through the MDS along with professional aid the center provides. The whole editing process took the authors about eight hours.

## **Video Editing Process**

The video editing process can be a challenge to grasp; the authors spent a significant amount of time getting to know the iMovie software. The authors had tried using a software that changed the format of the video before this, rendering it unavailable by other programs. The authors received help from the MDS and *The Handbrake Manual*, an editing software guide, to get the footage back to the MPEG-2 format. Although the authors restored the footage, it could not be recovered to its highest quality so this footage was used to create the storyboard while the authors had to restart with raw footage in another program.

### **Voice-Over Script**

Voice-over is the best option when creating an educational video. It allows the viewer to simply watch and listen as opposed to reading subtitles on the bottom of the screen. A voice-over also provides the viewer the option to follow along while creating a pot of their own.

### **Recording Process**

The video material was captured during a two day seminar in the summer taught by Mr. Lassanske. The first day involved the production of the pots: the materials were explained and then blended to create the cement potting mixture. This first day yielded about 2 hours of video footage. The second day demonstrated the removal of the pots from their molds, drilling holes in

the bottom for drainage, and decorating the hardened pots in many different ways. This also provided about 2 hours of footage.

#### **Instructional Aid**

The authors decided to create an instructional aide to accompany the educational video. This handout provides the students with step-by-step instructions to create pots of their own. It also allows students to clarify any point that they may have missed during the video.

### Storyboard

The storyboard the authors created illustrates the graphics and transitions used in the video in word form. The storyboard is as follows:

0:00-0:10

- -Intro with graphic saying Pots with Pizazz
- -Underneath the graphic "How to make lightweight garden pots"

0:10-1:10

- -Show still photos of all the ingredients necessary for the pots
- -Have graphics under each ingredient stating what it is

1:10-1:45

- -Show the perpetration of the pot making process—duct tape and WD-40 addition
- -Elaborate on what is taking place in the video with voice over

#### 1:45-2:45

-Show and elaborate on the combination of the ingredients—how many parts of each item are added, what is used to measure the parts, how to know the mix is ready, how to create different colors, etc.

#### 2:45-3:45

-Show the process of molding the pot—how much to add, gravel aid, etc.

#### 3:45-4:15

- -Show the removing of the mold and the rasping process.
- -Elaboration on rasping in voice over

#### 4:15-5:00

- -Show images of various finished pots
- -Closing credits
- -Special thanks to Mr. Dan Lassanske

### **Accompanying Handout**

The Handout created by the authors highlights the main steps of pot making. The Following is the outline of the handout:

**Step 1:** Obtain necessary materials: perlite, vermiculite, peat moss, Portland cement, sifter, pots, duct tape, WD-40, spatula, garden masonry hoe, gravel, wheelbarrow, rasp, liter sized measuring cups, drill.

**Step 2:** Combine 7 liters perlite, 7 liters of sifted peat moss, 3 liters vermiculite and 7 liters

Portland cement mix. Fully mix dry materials together using a masonry hoe. The masonry hoe has

two holes for better blending of the materials. Next add 7 liters water, stir while adding. If you choose add dye, this is the stage to add it. Earth tones are usually desired, but any color will do.

Step 3: Take your small and medium pots and duct tape the holes on the outside of the larger pot

and holes on the inside of the smaller pot. This will prevent the mix from leaking out. Next spray the inside of large pot and outside of small pot with WD-40, this will aid in the removal of the plastic pots from your final product.

**Step 4:** Fill the larger pot half way with your mix. With a spatula add some mix directly to the sides of the larger pot all the way around. Place the small pot inside the larger pot then wiggle and center it, displacing the mix to have an even thickness throughout the entire pot. Once the smaller pot is in the desired position, add gravel to the small pot, filling it, to secure the pot in place while the mix is drying.

Step 5: Depending on the size of the pot it should take anywhere from two to three weeks to dry completely. Once the pot is dry, remove the gravel from the small pot and gingerly remove the small pot. Then flip over the large pot with your finished product inside and set on a flat surface. Gently tap along the edges to remove the outer top. Be careful not to crack your *Pot with Pizazz*. Step 6: Once your pot has been completely removed from the inner and outer layers, you have the option to rasp the top and the sides to better display the vermiculite perlite accents. Once your pot has the desired look, drill four holes into the bottom for proper water drainage during use.

**Step 7:** You now have the option to decorate your pot as you wish, and grow your favorite flowers, succulents or even garden herbs.

# Conclusion

The authors chose the highest quality recording and editing programs to create this video.

Access to these materials allowed to authors to have the ability to distribute this video and handout to high school agriculture classes of all levels.

## **Chapter 4**

### **Video Production**

The final product of this senior project is an educational video that is five minutes in length. It captures the process of developing a light-weight, natural looking, and horticultural pot using sustainable materials such as peat moss, vermiculite, perlite and Portland cement as ingredients. This video can be used by agricultural teachers at any grade level to show their students the process of creating their own *Pot with Pizazz*. This video also lists all other essential materials needed and explains the characteristics of peat moss, vermiculite, and perlite. The following three pages are the script that the authors used when doing the voiceover on the video.

### Script

### Pots with Pizazz: The Creation of Lightweight Pottery

Pots with Pizazz aren't you're ordinary garden pots; they go well in any garden and are simple to create. Designed by Professor Dan Lassanske at California Polytechnic State University, San Luis Obispo, these garden pots are made of easily attainable materials and are a great do-it-yourself project. This video explains the step by step process for creating these pots so you can follow along and even do it again at home. We will spell out every step for you along the way, so let's start from the beginning.



First things first, make sure you have all of the needed materials: Vermiculite, perlite, Portland cement, peat moss, a sifter for the Peat Moss, a masonry hoe and wheelbarrow, a spatula, duct tape, cement color (if desired), WD-40, measuring cup, a rasp, a drill, and finally various plastic pot molds of the same shape but different sizes.

### **Part Two: Preparation**

First make sure the molds are clean and free of debris from previous uses. Once the molds are clean, apply duct tape to the outside of the larger pot, and the inside of the smaller pot. This will ensure that the mixture stays inside the molds. Next spray







WD-40 on the inside of the larger pot, and on the outside of the smaller pot so that when the pottery mix is dry it will not stick to the plastic molds.

### **Part Three: Mixing Ingredients**

Now begin with the pottery ingredients: seven liters of perlite, 3 liters of vermiculite 7 liters of sifted peat moss and 7 liters of Portland type cement. These are the dry materials and should be thoroughly mixed together using the masonry hoe. This special type of hoe has holes in it for better mixing and blending. Once all of the dry materials have been mixed, add seven liters of water. If desired, you may also add dye to spice up your mixture, but it isn't necessary. It is usually better to use earth tones for aesthetic reasons, but any color will do. We have chosen a brick red.

### **Part Four: Shaping the Pots**

Now begins the execution: fill the larger pot about half way with the pottery mixture you have blended. With a spatula add the same or different color to the sides to make sure the pot is completely filled with mixture around the edges. The inner pot should be centered and pushed far enough down so that the mold is evenly spaced in all areas of the pot. To keep the shape while your pot is drying, add some gravel to the inside of the inner pot to add some weight, this should keep the inner pot in







place over the next two weeks. Depending on the size of the pot it should take anywhere from two to three weeks to dry completely.

### **Part Five: Post Drying**

Once your pot is dry, take the gravel from the inside and gingerly remove the small pot from the mold. This will reveal in the inside of your very own Pot with Pizazz. Then flip it over with your finished product inside and set on a flat surface. Gently tap along the edges to remove the outer mold. Be careful not to crack your pot. Next, drill four holes in the bottom to allow for proper drainage once the pot is in use. This can be done with any drill, the holes just need to be big enough so that water can easily escape. Assuming all went well with the removal and the drilling, there should be an almost done *Pot* with Pizazz in front of you, and a lot of options to choose from. Standing alone, this pot will go well in any garden, but you can dress it up a little with the use of a rasp, or even some paint to add a personal twist. After you have completed all of these steps, your Pot with Pizazz is ready to compliment your existing garden, or even to be a centerpiece in your home.







## Handout

A handout was also created by the authors to accompany the video as a physical explanation of the procedures to be referred to at any time. This handout will help the students grasp the steps to making their own *Pot with Pizazz* and can be kept for future use. The final handout is as follows:

### Making Your Very Own Pot with Pizazz

**Step 1:** Obtain necessary materials: perlite, vermiculite, peat moss, Portland cement, sifter, pots, duct tape, WD-40, spatula, garden masonry hoe, gravel, wheelbarrow, rasp, liter sized measuring cups, drill.

Step 2: Combine 7 liters perlite, 7 liters of sifted peat moss, 3 liters vermiculite and 7 liters

Portland cement mix. Fully mix dry materials together using a masonry hoe. The masonry hoe has
two holes for better blending of the materials. Next add 7 liters water, stir while adding. If you
choose add dye, this is the stage to add it. Earth tones are usually desired, but any color will do.

Step 3: Take your small and medium pots and duct tape the holes on the outside of the larger pot
and holes on the inside of the smaller pot. This will prevent the mix from leaking out. Next spray
the inside of large pot and outside of small pot with WD-40, this will aid in the removal of the
plastic pots from your final product.

Step 4: Fill the larger pot half way with your mix. With a spatula add some mix directly to the sides of the larger pot all the way around. Place the small pot inside the larger pot then wiggle and center it, displacing the mix to have an even thickness throughout the entire pot. Once the smaller pot is in the desired position, add gravel to the small pot, filling it, to secure the pot in place while the mix is drying.

**Step 5:** Depending on the size of the pot it should take anywhere from two to three weeks to dry completely. Once the pot is dry, remove the gravel from the small pot and gingerly remove the small pot. Then flip over the large pot with your finished product inside and set on a flat surface. Gently tap along the edges to remove the outer top. Be careful not to crack your *Pot with Pizazz*.

**Step 6:** Once your pot has been completely removed from the inner and outer layers, you have the option to rasp the top and the sides to better display the vermiculite perlite accents. Once your pot has the desired look, drill four holes into the bottom for proper water drainage for water the plants that will later inhabit your pot.

**Step 7:** You now have the option to decorate your pot as you wish, and grow your favorite flowers, succulents or even garden herbs.



#### Chapter 5

### **Summary, Recommendations and Conclusion**

This chapter includes a summary of this entire project, recommendations for video production, and a conclusion demonstrating how the video should be used and distributed in high school agriculture courses.

### **Summary**

This senior project explores the importance of hands-on experiences in the classroom, along with pottery and video making. The authors researched the history of pottery, the materials used to create sustainable pottery, and video production to complete this senior project. The video the authors created features the process in which to create Dan Lassanske's *Pots with Pizazz*—garden pots made from everyday gardening materials that can easily be recreated in a high school agriculture classroom setting. The video, along with the accompanying handout, can be used by educators as a fun, hands-on lesson plan to get their students involved in pottery and gardening.

Developing a high-quality video takes time and patience. The authors recommend this video be used in all high school agricultural classes to promote student involvement. If teachers choose to incorporate this video into their curriculum it can be a useful tool for students to consider as part of a Supervised Agricultural Experience (SAE) project. In addition, the pots created by students can be marketed for different occasions, such as school fundraisers or raffles.

#### Recommendations

Various challenges arose while developing this senior project. Although most ideas flowed and intertwined with one another forming a fluid train of thought for a new project, some issues evolved in the video editing and production processes. The following list outlines some recommendations that would benefit anyone trying to recreate this senior project.

- Have a timeline made up for shooting the video, storyboard creation, and script writing at least one month in advance to the day of the class to allow enough time to plan and prepare for production.
  - a. The storyboard and script should be completed prior to shooting the video. This
    will ease the identification of what types of shots are needed to produce the best
    video.
- 2. Schedule a follow-up shooting session to recreate any uncaptured footage if necessary.
- 3. When uploading the video to begin the editing process, use *iMovie*.
  - a. Upload to the program straight from the camera that was used. *iMovie* easily accepts raw footage formats directly from video cameras, while a flash drive can corrupt the information, causing the program to have trouble deciphering it.
- 4. Separate the video into different folders within the main folder.
  - a. This will allow footage to stay organized. For instance, all drilling footage in one folder, while the mixing footage is in another, and so on and so forth.
- Before beginning the editing process research all pros and cons of the programs available.
   All programs have different benefits and features.
- 6. Utilize the media services available at the school site.

- a. These services can provide materials, technology and insights not normally available to students.
- 7. Voiceovers should be recorded through a separate detachable microphone.
  - a. This will increase sound quality.
- 8. Use the "adjust clip" tool when recording the voice over in *iMovie*.
  - a. This fits the voice over to the video by scene. It also matches up separate voiceover clips to remove unnecessary gaps.
- 9. MP3 undertones should not drown out the speaker.
  - a. Adjust the volume to about 25% of normal volume while keeping the voiceover at 100%

#### Conclusion

Overall, developing a good quality video takes time and patience. This video should be used in all high school agricultural classes to promote student involvement. If teachers choose to present this video to their class, students can learn how to make their own *Pots with Pizazz* and this senior project can be a compliment to their Supervised Agricultural Experience project. In addition, teachers can come up with fun and innovative ways to decorate the pots to be sold and marketed as a benefit to their programs.

### **Bibliography**

- Basics Facts About Perlite. (2011, May 14). Retrieved from: http://www.perlite.net/
- Camcorder Buying Guide. (2010 July 2). *CNET Reviews*. Retrieved from http://reviews.cnet.com/2719-7607\_7-266-1.html?tag=page;page#1
- History of Ceramics. (n.d.). Retrieved May 14, 2011, from The American Ceramic Society website: http://ceramics.org/learn-about-ceramics/history-of-ceramics
- Fauer, J. (2001). Shooting Digital Video: DVCAM, Mini DV, and DVCPRO. Woburn, MA: Focal Press
- Mineral Zone. World Mineral Zone Exchange. Vermiculite. Retrieved from: http://www.mineralszone.com/minerals/vermiculite.html
- Moutere River Company Ltd. Sphagnum Moss the Facts. Retrived from: http://www.moutere.com/stories/storyReader\$54
- Portland Cement Association. Cement and Concrete Basics. (2011).

  Retrieved from: http://www.cement.org/basics/concretebasics\_concretebasics.asp
- Rice, Prudence M. (1987). *Pottery Analysis: A Sourcebook*. Chicago, Illinois: University of Chicago Press.
- Ruiz Marcos. Pots with Pizazz! [Powerpoint slides].
- Rysinger, L. (2005). Exploring Digital Video: An In-Depth Guide to the Art and Techniques of Digital Video. Clifton Park, NY: Thomson Delmar Learning
- Siegchrist, G. (2001). Best Video Editing Software- What is the Best Video Editing Software?.

  \*About.com Guide\*. Retrieved from 
  http://desktopvideo.about.com/od/editingsoftware/f/bestvideoeditingsoftware.htm