

**Biosystems and Agricultural Engineering Update**

**Teaching All-Terrain Vehicle (ATV)  
Safety to Groups of Elementary School  
Students at Community Safety Days**



**Introduction**

Frequently a county, community, or school district will hold a safety day for all the students in a particular grade(s) in the school system. ATV safety is a popular subject, and the county Extension office will often be asked to provide a speaker on that topic. With large numbers of students, what typically happens is that someone must teach a group of 50 to 100+ students about ATV safety in a 25-30 minute period, often out on the bleachers at the county fairground, and then repeat that presentation several times.

Such teaching can easily be done by a county Extension agent or someone else in the community. This document is intended to provide some guidance on the process.

Note that this document is not about training youth to ride, or even encouraging interest in ATVs. It is about informing large groups of elementary school students about the hazards of ATV riding, and things they or other family members should or should not do.

### **What you will need**

#### **An ATV**

Standing in front of the bleachers, you will definitely need an ATV to use as a prop. It would not be ridden and not even started, but used as a static demonstration tool. Typically this would be an adult-sized ATV (one that is intended for riders age 16 or older), since those are by far the most common and easiest to obtain, and the best for demonstrating the points you want to make. If a youth-sized ATV can be obtained in addition, for comparison with the full-size ATV, that could be helpful, but not necessary.

#### **A UTV if possible**

It is also helpful, but not required, to have a UTV ("Utility Task Vehicle," also known informally as a "side-by-side," such as a Kawasaki Mule, Polaris Ranger, John Deere Gator, or similar) along with the ATV. This would also be used as a static teaching tool, to show why these vehicles are becoming more popular, have safety features the ATV doesn't, are easier to use, and are better than ATVs for use on farms. The UTV should have a certified ROPS (Roll-Over Protective Structure), since this is a key safety feature not found on an ATV. A certified ROPS will have a sticker (either on the ROPS, in the cargo bed behind the driver's seat, or somewhere on the machine) indicating that the ROPS has been tested and meets certain standards. Do not use a UTV that lacks a ROPS.



## Personal Protective Equipment (PPE)

You will need a variety of PPE on hand to show to the students. There are many items that could be used, but here is a list of what has worked well, followed by detailed descriptions of each. It is important to get the right type of item. And it is also important to get attractive PPE, as I will discuss later, since most people, given a choice, would rather wear PPE that is attractive and colorful than PPE that is dull.

1. At least one -- preferably two or more -- attractive helmets with chin protection.
2. Several "helmet skins", which are stretchy covers for helmets designed to completely cover the helmet to change its appearance.
3. One or more pairs of goggles, preferably in different colors.
4. One or more pairs of riding gloves, preferably in different colors.
5. If possible, a pair of riding boots, something designed for ATVs or motorcycles.

### 1. Attractive helmets with chin protection

The helmet is the most important piece of PPE that a rider can wear, since closed-head brain injuries are not uncommon for helmetless riders in crashes. Some helmets are open at the chin and do not protect the chin and lower face, like wearing a football helmet without a face mask. These are often called "open-face" helmets. *Do not use helmets without chin protection.* What you want are helmets that come down to the jaw line and forward in front of the chin.

There are two types of helmets with chin protection, and it is a good idea to have at least one of each. The "closed-face" helmet has a face shield and is typical of what motorcyclists wear for street riding (see blue helmet below.) The other type of helmet is often called a "motocross helmet"; it also has chin protection, but no face shield, so the rider must wear goggles (see red helmet below.) Typically it will have a visor that projects out a few inches from the forehead. These helmets are called motocross helmets because they are commonly worn by off-road motorcyclists. Sometimes they are mistakenly called "open-face" helmets, but true open-face helmets are the kind without chin protection (see white helmet below.)

Helmets must carry the "DOT-Approved" sticker as a minimum. DOT is the US Dept. of Transportation, and this is the minimum allowable approval rating to provide adequate protection. Many helmets will also carry the Snell approval sticker -- the Snell Memorial Foundation is a non-profit organization dedicated to helmet safety and uses somewhat different testing criteria than DOT.

Both the closed-face and motocross helmets will be available for purchase locally or can be ordered online, sometimes for less than \$50 each. Or, they can be borrowed from local dealers or riders. The idea behind having both closed-face and motocross helmets is that students may relate more to one kind than another, depending on what they have seen or what their family has at home. If possible, get helmets that have a design or multiple colors on them, since an important objective to show that PPE does not have to be dull. Given a choice, most people will choose attractive, colorful PPE over plain PPE.



## 2. Attractive helmet skins

It is also helpful to have several “helmet skins”, which are stretchy covers for helmets designed to completely cover the helmet (except for the face shield) to change its appearance. For example, if a person has a plain white helmet or other solid color and wants to change it to, say, something with stripes or flames or camouflage, a helmet skin can do that. These are available online for around \$10. These show students that for very little money, plain helmets can be made more attractive and thus be more likely to be worn. There are different skins for closed-face helmets and motocross helmets. In my experience, and this is a generalization, the boys seem to react very positively to PPE with camouflage patterns, and the girls seem to react positively to PPE having some pink or lavender.

## 3. Goggles

One or more pairs of goggles should be shown, preferably in different colors. While goggles are not required when wearing a closed-face helmet with face shield, they are required when

wearing a motocross helmet, or a closed-face helmet where the face shield has been removed. Eye protection is extremely important and cannot be emphasized enough. As you know, it does not take much to permanently damage an eye.

#### 4. Riding gloves

You should have one or more pairs of riding gloves, preferably in different colors. These are gloves designed for off-road use – they have reinforcements or padding in key areas – and can be purchased locally or ordered inexpensively online. Good heavy work gloves will work, so it is important not to make people think that they must go out and buy different gloves. The reason for having gloves with colors is to maintain the theme that PPE can be attractive and fun to wear.

#### 5. Riding boots

If possible, try and get a pair of riding boots, something designed for ATVs or motorcycles. These are not the tall boots that come up near the knee, such as those worn by motocross riders in competitions, or by serious off-road ATV riders who are out many days a year in wilderness or desert areas. What I am referring to are ankle-high boots designed for riding, which might be attractive brown suede, or black with pink trim, or something along those lines. Good heavy work shoes will work, of course, and people should not think they need to buy special boots, but it is good to show the alternatives. The point is to show that riding boots do not have to be ugly or clunky. More importantly, what we want to avoid is people riding ATVs with tennis or running shoes.

### **How to Proceed – My Experiences**

1. Even though teachers will be accompanying their students and will maintain order, I find it helpful to get the kids calmed down and paying attention by asking a simple question, like pointing to the ATV and asking, “Who knows what this is?”, and then either calling on someone with their hand raised, or if students just blurt it out, simply acknowledging it. This is also a good time to remind students to raise their hands if they want to be called upon. If students call it a four-wheeler, then I ask for the proper name (ATV.) I would then ask if anyone knows what the letters “ATV” stand for.
2. Following this simple opening, I then ask if anyone in the group has ever operated an ATV. Then I ask if anyone has ever been a passenger on an ATV, followed by asking if anyone has been injured on an ATV. Some students, perhaps many, will raise their hands. I want to hear first from students who have been injured themselves, so if I call on someone and they start to talk about someone else, I gently say we’ll talk about other people later. I want students who were injured to describe what they were doing and what happened. I may ask a follow-up question. Then, after hearing several students describing their experiences, I ask if anyone in their families has been injured, and repeat the process. This gets students involved and listening, but you do not want to spend too much time on this.

3. Then I explain how people get injured and even killed on ATVs, and emphasize that this is a big problem in Kentucky and across the nation, with Kentucky and West Virginia being two of the states with the most ATV fatalities. Statistics are not needed to make the point. I describe how ATVs overturn and what happens to people in overturns. I also describe collisions with trees and collisions with cars while riding illegally on roads, or even just crossing roads.
4. Next, I ask the students how we can prevent these injuries, and I continue to call on students until I get one or more who say things like “getting training” or “riding the right size ATV” or “wearing a helmet”, etc. You want to give positive feedback for good answers. At this point I say we are going to talk about riding the correct size ATV, and explain the guidelines that exist (based on engine size) for deciding who can ride an adult ATV. I will point to the warning label on the ATV that covers this, and remind the students that none of them fall into the category of age 16 and older.
5. Following this discussion, I ask for a volunteer to come down and sit on the ATV. I never choose a larger student, and try to pick a smaller one. I have the student (our “model”) sit on the ATV and put both hands on the handgrips. This usually shows that they cannot grip the handlebars with their arms bent, as is required, and I then ask them to turn the handlebars left and right. Typically they have to really reach to do this. I then ask the students in the bleachers if our model has arms long enough to safely operate the machine, and explain why not. (I usually mention the weight of the ATV and how it takes some strength to turn an ATV.) Next, I ask our model to extend his/her fingers toward the brake and clutch levers, and then ask the students if our model has big enough hands to quickly grip and pull those levers. After that, I ask our model to stand up while straddling the seat, and look to see if there are several inches of clearance above the seat. I explain why this is necessary and ask the students if our model is tall enough to ride this ATV. At this point I conclude the demonstration, thank the student model, and ask all the students to applaud as he/she takes a seat.
6. Now comes the part where I talk with them about the personal protective equipment. You can take as much or as little time as you want, depending on your time constraints. I start with the helmets, then the helmet skins, then eye protection, gloves, and shoes. Sometimes I will leave a helmet in a box and then pull it out to kind of surprise them with how nice it looks. The main things are to (1) describe the importance of each item; and (2) emphasize that PPE can look really “awesome” and can be fun to wear. I also make a point of telling students that lots of good PPE is available through the internet, so if their families cannot find what they want at a local dealership, they can find just about anything online. (This is an important point, because showing students unavailable products is not productive.) If you have time, you can ask if there are questions or comments, and then end your presentation.

Once you do this a time or two, it will be easy for you, and can actually be quite interesting depending on how talkative the class is. Enjoy your time with these students!

**Note: Product photographs do not imply endorsement of any particular model or brand.**

**Mark Purschwitz, Ph.D, Extension Professor and Agricultural Safety and Health Specialist  
March 2013**