

# Ministry of Grace

blood flowed from the winepress, as high as a horse's bridle, for 1,600 stadia (Revelation 14:20)

Some have said that there will not be enough people on the earth during the tribulation to produce this much blood. So, let's do a little math. But first, we have to assume that the Apostle John is giving this description as a "river" of blood rather than a "flood." The reason for this assumption is that 1,600 stadia is approximately the distance from the northern border of Israel to the southern border of Israel in the 1<sup>st</sup> century.

1600 Stadia is about 200 Roman miles, which is about 184 statute miles. A statute mile is 5280 feet. Using the Jordan River as an example of a river that flows nearly from the northern extremity to the southern extremity of Israel and the fact that the average width of the Jordan River is about 100 feet. Finally, assuming that a horse's bridle is about 5<sup>1/4</sup> feet high we can now calculate the volume of blood in cubic feet.

1600 Stadia = 184 statute miles  
x 5280 feet/mile = 971,520 feet  
x 100 feet (width) = 97,152,000 ft<sup>2</sup>  
x 5.25 feet (height) =

**510,048,000 ft<sup>3</sup>** (this is the volume of blood described by John)

Next, we have to determine how much human blood will be available. If we assume that the tribulation begins with 8 billion people and given that the 4<sup>th</sup> seal judgment and the 6<sup>th</sup> trumpet judgment combined kill off half the population, that leaves us with about 4 billion people. Now, if we assume that a quarter of them are either killed or become believers, we are left with approximately 3 billion people. The volume of blood in the average person is between 1.2 and 1.5 gallons, so we will use the number 1.3 gallons. There is 0.133681 ft<sup>3</sup> in a gallon, so we can now make our calculation.

3 billion people  
x 1.3 gallons of blood per person  
x 0.133681 ft<sup>3</sup> per gallon gives us

**501,303,750 ft<sup>3</sup>** (this is the amount of blood in all of mankind at the end of the tribulation)

Given that we are working with approximations, it appears that John's numbers are at least realistic.