



Estimating the street value of a cannabis plant in Australia

Francis Matthew-Simmons,
Marian Shanahan & Alison Ritter

Introduction

We do not know the value of the cannabis market in Australia. 'Per plant' estimation of the street value of cannabis is a helpful measure – if we can derive an estimate of the value for one cannabis plant, then we can measure the value of a seizure of many plants; and estimate the overall value of the Australian market based on cannabis crops. The purpose of this bulletin is to provide estimates of the 'street value' of an individual indoor, hydroponic cannabis plant, taking street price and yield into consideration.

Past estimates of the value of a hydroponic cannabis plant are shown by Australian state in Table 1. These figures are taken from the Australian Crime Commission Illicit Drug Data Report (2009) and are the ones commonly used to calculate seizure values. Another study used interviews with cannabis growers in New South Wales, who provided estimates ranging from \$1,000-\$5,000 per plant (De Launey, 1996). As is obvious, there is quite a range of values in the various available figures.

Two important distinctions are required to derive an accurate value for a cannabis plant. The first is whether the plant is grown indoors, hydroponically versus grown outdoors. The size of outdoor plants is different from indoor/hydroponically grown cannabis plants, and this influences the cannabis yield per plant. Indoor hydroponic crops are the most commonly detected in Australia, and likely to be the most commonly grown (Willis, 2008) so we need new estimates based on indoor plants.

Secondly, the yield per plant is an important consideration. Yield is basically the amount of active or saleable cannabis that can be harvested from one plant. Even though growing plants in an indoor setting contributes to a more 'controlled, more premium product' (Bouchard, 2007), outdoor, soil grown plants can produce much larger yields than their indoor, hydroponic counterparts (Bouchard, 2007; Hough, et al., 2003).

Table 1: Commonly used estimates of price per cannabis plant (ACC, 2009)

Jurisdiction	Price per plant
NSW	\$5,000
VIC	n/a
QLD	\$5,000
SA	n/a
WA	\$2,000-\$4,000
TAS	\$3,000
NT	n/a
ACT	\$2,000-\$2,500

Yields can vary enormously: for example 37 cannabis growers in the UK reported yields ranging between ¼ of an ounce (7 grams), to ten ounces (283 grams) per plant (Hough, et al., 2003, pp. 6-7).

We need to take the variability of yields into consideration in our estimation. We also need to consider the variability in price: in Australia, price per gram does not vary much from an average of \$20.00 (Stafford, et al., 2009). But purchases at larger quantities, for example at an ounce, represent quantity discounting. The price of an ounce is around \$300 (Stafford, et al., 2009). With 28 grams in an ounce, buying cannabis by the ounce means that each gram in that ounce is worth around \$11. We estimate the value of an indoor cannabis plant based on the street price per gram, not taking into account the lower price at higher weights.



Results

Our results are shown in Table 2. We provide a low, middle and high estimate.

Table 2: Estimates of the value of one indoor cannabis plant in Australia

	Low	Middle	High
Price (A)	\$17.50	\$20	\$30
Yield (B)	25.5g	33.7g	36.9g
Value (A x B)	\$446.25	\$674	\$1,107

The price of cannabis is the retail, street-level price for one gram. This information is taken from the Illicit Drug Reporting System (Stafford, et al., 2009), a survey of regular cannabis users. In 2008, the price of hydroponic cannabis in Australia ranged between \$17.50 and \$30.00 per gram (Stafford, et al., 2009). We used \$17.50, \$20.00 and \$30.00 as the three retail price estimates.

Estimating the yield from indoor cannabis plants was more difficult – and relied on international data sources. From the Netherlands, the predicted yield per plant was 33.7g (1.2 oz) (Toonen, Ribot, & Thissen, 2006). From Canada, Bouchard estimated that the yield of indoor hydroponic plants would be approximately 25.5g (0.9 oz) per plant for a large crop (over 100 plants), and 36.9g (1.3 oz) per plant for a small or medium crop (under 100 plants) (Bouchard, 2007). We take these three estimates (25.5g; 33.7g and 36.9g) as our three estimates of yield (there are no other published yield estimates of indoor grown cannabis plants).

As can be seen in Table 2, the estimated value of an indoor grown cannabis plant is between \$446.25 and \$1,107. These figures are lower than those provided for outdoor grown plants, possibly due to the differences in yield between the two types. They are also much lower than those provided by law enforcement agencies in Australia to estimate the value of cannabis plants.

Conclusion

The value of a cannabis plant is dependent on a number of possible factors: price at a certain quantity of purchase, yield per plant, and method of growing (indoor or outdoor). Like any other commodity, the price of cannabis may change over time. We have made a number of assumptions in this work. Research on the yield from Australian indoor cannabis plants would be extremely useful in refining our estimates. Nonetheless, we hope that the estimates provided here are taken up and used by researchers and government agencies to more accurately value the cannabis market and the impact of interventions, such as plant seizures.

References

- Australian Crime Commission (2009). *Illicit Drug Data Report 2007-08*. Canberra: Australian Crime Commission.
- Bouchard, M. (2007). *A capture-recapture derived method to estimate cannabis production in industrialized countries*. Paper presented at the First Annual Conference of the International Society for the Study of Drug Policy.
- De Launey, C. (1996). The real value of a cannabis plant. [Report on a 1995 survey of cannabis crop growers in northern NSW.]. *Alternative Law Journal*, 21(3), 127-130.
- Hough, M., Warburton, H., Few, B., May, T., Man, L.-H., Witton, J., et al. (2003). *A growing market: the domestic cultivation of cannabis*. York: Joseph Rowntree Foundation.
- Stafford, J., Sindicich, N., Burns, L., Cassar, J., Cogger, S., Graaff, B. D., et al. (2009). *Australian Drug Trends 2008: Findings from the Illicit Drug Reporting System (IDRS)*. Sydney: National Drug and Alcohol Research Centre.
- Toonen, M., Ribot, S., & Thissen, J. (2006). Yield of illicit indoor cannabis cultivation in the Netherlands. *J Forensic Sci*, 51(5), 1050-1054.
- Willis, K. (2008). *Cannabis supply into and within Australia*. Canberra: Australian Institute of Criminology.