JLARC
JOINT LEGISLATIVE AUDIT
AND REVIEW COMMISSION

Fiscal Impact Review

2017 General Assembly Session

Date: January 22, 2017
Bill number: SB 798
Review requested by: Co-Chairman Norment
Co-Chairman Hanger

JLARC Staff Fiscal Estimates

JLARC staff concur with the Fiscal Impact Statement (FIS) for SB 798 that the revenue impact from this bill would be negative and is expected to be minimal. SB 798 would provide an individual income tax subtraction for any income of a taxpayer engaged in farming that is attributable to the sale of barley, hops, wheat, or other crops to a brewery licensed in Virginia. JLARC staff estimate that there could be a reduction in general fund revenue of up to $56,000 at most for sales of hops and barley in FY18. Additional reductions could occur for sales of other crops, but the revenue reduction would likely be minimal because these crops are not widely used in beer production and not largely purchased in Virginia.

An explanation of the JLARC staff review is included on the pages that follow.

Authorized for release:

Hal E. Greer

Hal E. Greer, Director

Bill summary: SB 798 would provide an individual income tax subtraction beginning January 1, 2017, to taxpayers engaged in the business of farming as defined under federal law, for any income attributable to the sale of barley, hops, wheat, or other crops grown by the taxpayer to a brewery licensed in Virginia. A taxpayer is generally considered engaged in the business of farming pursuant to federal law to the extent that he cultivates, operates, or manages a farm for gain or profit, either as owner or tenant. This bill does not contain an expiration date.

Discussion of fiscal implications: JLARC staff estimate that SB 798 could result in a reduction in general fund revenue of up to $56,000 for sales of hops and barley in FY18. Additional reductions could occur for sales of other crops, but the revenue reduction would likely be minimal because these crops are not widely used in beer production and not largely purchased in Virginia. This estimate is in line with the conclusion in the fiscal impact statement that this bill's impact on general fund revenue would be negative but is expected to be minimal.

Beer ingredients

Beer is made from four primary ingredients: grain, hops or other additives for flavor, yeast, and water. Grains, hops, and fruits used as additives are the ingredients that could qualify for the income tax subtraction. Barley is the most common grain used to make beer, but corn, wheat, rice, and—to a lesser extent—oats and rye may also be used. Hops are the most common additive used for flavor, but citrus, apples, pumpkins, and strawberries are also used for seasonal beers.

Virginia is not a major producer of crops used for beer

Virginia is not a major producer of barley or hops, the most commonly used ingredients to make beer. Virginia's crops for barley and hops represent less than one percent of total U.S. production for both crops in 2015. More than 75 percent of the nation's barley comes from North Dakota, Idaho, and Montana. Nearly all (98 percent) of the nation's hops come from Washington, Oregon, and Idaho. Virginia is not a producer of rice or a major producer of oats and rye.

While corn and wheat are among the top 20 agricultural commodities produced in Virginia, it is unlikely that these crops are used to produce beer in Virginia. The wheat grown in Virginia is winter wheat, but white spring wheat is generally preferred for brewing. Corn is mostly used in beer by large breweries such as MillerCoors and Anheuser-Busch, both of which brew beer in Virginia. However, these companies have both national and international markets and supply chains, and they are unlikely to purchase corn from Virginia farmers because they use refined corn. The Corn Refiners Association has 27 member refineries, none of which are located in Virginia.

Fruit additives may also be produced in Virginia. The extent to which fruits are purchased by Virginia brewers from Virginia farmers is unknown. Staff from the Virginia Craft Brewers Guild indicated that Virginia brewers may be more likely to purchase fruits in Virginia than other crops. Apples are also among the top 20 agricultural commodities produced in Virginia. Citrus is not produced in Virginia and the extent to which strawberries, pears, and pumpkins are produced in Virginia is not reported.

Estimate of revenue impact

Step 1: Estimate sales of crops from farmers to Virginia brewers

In order to calculate the revenue impact, sales of crops from farmers to Virginia brewers is necessary. Only sales of hops and barley are used to estimate the revenue impact because these are the most commonly used ingredients in beer production. Sale information from the 2015 calendar year is used in these estimates because it is the most recent information available for these crops.

JLARC staff estimate that the value of hops produced in Virginia in 2015 was approximately $131,400.

Table 1: Sales of hops produced in Virginia, 2015

Estimated pounds of hops produced in Virginia	
30	Virginia hop acreage
× 1, 000	production pounds / acre (non-Pacific Northwest states)
30,000	pounds of hops produced in Virginia
Estimated sales from hops produced in Virginia	
30,000	pounds of hops produced in Virginia
× $4.38	seasonal average price of hops per pound (U.S.)
$131,400	**sales of hops produced in Virginia**

SOURCE: Hop Growers of America, 2016 Statistical Report.
NOTE: Estimate assumes the hop yield per acre in Virginia is similar to the yield per acre in other states outside of the Pacific Northwest and that the average price per pound of hops in Virginia is similar to the U.S. average price per pound.

JLARC staff estimate that the sales of malt-type barley—the type used for brewing—produced in Virginia in 2015 could have been as much as $1.2 million. This estimate is equivalent to the estimated amount of malt barley Virginia craft breweries needed for their beer production in 2015. Large breweries were excluded from the estimate because it is unlikely they would use local suppliers except to produce a specialized product, according to staff of the Virginia Craft Brewers Guild.

Table 2: Sales of malt-type barley produced in Virginia, 2015

Estimated sale price per acre of barley in Virginia	
$3,840,000	value of total Virginia barley crop
÷ 16,000	acres of total barley harvested in Virginia
$240	average sale price per acre in Virginia

Estimated maximum sales of malt-type barley in Virginia	
5,000	Maximum acres based on capacity, estimated by Virginia Tech
× $240	average sale price per acre in Virginia
$1,200,000	**sales of malt-type barley in Virginia**

SOURCE: USDA National Agricultural Statistics Services and grain specialists at Virginia Tech.
NOTE: The maximum acres of capacity for malt-type barley is based on the estimated number of acres of barley it would take to produce the approximately 300,000 barrels of craft beer that were produced in 2015. The average sales price per acre is the average price for all barley sold. Malt-type barley would likely have a higher sale price because it is higher quality.

Step 2: Estimate the revenue reduction based on sales

To calculate the revenue reduction, JLARC staff calculated individual income tax revenue from farmers paying taxes in Virginia on income from their sales to Virginia licensed breweries. These estimates assume that (1) the full sales amounts calculated in step one qualify for the income tax subtraction and (2) sales in 2017 would be similar to sales in 2015.

JLARC staff estimate that the reduction in revenue from sales of hops and barley could be up to $56,000 in FY18. It is likely that revenue reductions for future years would be similar unless farm production levels or sale prices of hops and barley substantially changed.

Table 3: Estimated reduction in individual income tax revenue from hops and barley sales, FY18

Estimated Virginia taxable income of farmers qualifying for the subtraction	
$1.33 M	Total sales of Virginia hops and malt-barley crops
× 79.8%	Taxable income as a % of AGI (average Virginia taxpayer)
$1.06 M	Virginia taxable income
Estimated tax liability of farmers qualifying for the subtraction (amount that revenue would be reduced)	
$1.06 M	Virginia taxable income
× 5.3%	Tax rate (average Virginia taxpayer)
$56,180	**Virginia tax liability (revenue reduction)**

SOURCE: JLARC staff analysis based on information reported in Table 1.2 of the FY15 Annual Report, Virginia Department of Taxation.

This estimate is a maximum reduction in revenue for several reasons. In addition to assuming all sales would qualify for the subtraction, it assumes that farmers of these crops have a similar taxpaying experience as the average Virginia individual income taxpayer and have taxable income against which to apply the subtraction. It is important to note that farmers may also qualify for several federal and state tax incentives, as noted in the fiscal impact statement prepared for this bill. These incentives likely reduce their taxable income below that of the average taxpayer.

Reductions could occur from sales of other crops but they would likely be minimal

Estimates of the reduction in revenue from sales of corn, wheat, and apples were not included in JLARC's estimate of the revenue impact of this bill. Information to calculate total sales in Virginia is available for these crops, but the extent to which these crops are used in beer production is unknown and it is unlikely that corn and grain are purchased from Virginia farmers.

Sales of corn and wheat produced in Virginia are substantial ($923 million and $76 million in 2015 respectively), but the amount of sales from farmers to Virginia brewers is likely minimal. Large brewers that would purchase the majority of these grains have national supply chains and are unlikely to use local suppliers. Brewers typically purchase these grains from a processor rather than directly from a farmer.

Sales of fresh apples in Virginia totaled $15.3 million in 2015. As mentioned previously, Virginia brewers may be more likely to buy apples from local farmers relative to other crops, but they are only used as additives for seasonal or specialty beers.

For context, JLARC staff estimated what the revenue reduction could be if one percent of each crop were sold to Virginia brewers. These estimates use the same assumptions noted for the estimated revenue reduction from sales of hops and barley. Estimates of reduced revenue from the sales of corn and wheat would never be substantial unless large breweries in Virginia changed their suppliers to local farmers.

Table 4: Revenue reduction that could result from sales of corn, apples, and wheat if one percent of the total crop of each was sold to brewers, FY18

Crop	Revenue reduction assuming 1% of total crop sold to Virginia brewers
Corn	$82,000
Fresh apples	6,000
Wheat	32,000
Total	**$120,000**

SOURCE: JLARC staff estimates of data from the USDA National Agricultural Statistics Services.
NOTE: One percent of the total crop by type of crop would be approximately 483,000 bushels of corn, 650,000 pounds of fresh apples, and 138,600 bushels of wheat.

Budget amendment necessary? The proposed income tax subtraction would not require a budget amendment because the subtraction would result in forgone general fund revenue, not direct budget spending.

Agencies affected: Department of Taxation

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