

Coronavirus Food Assistance Program 2

Cost-Benefit Analysis

Executive Summary

The U.S. Department of Agriculture (USDA) is implementing a second round of the Coronavirus Food Assistance Program (CFAP 2) for producers of agricultural commodities marketed in 2020 who face continuing market disruptions, reduced farm-level prices, and increased production and marketing costs. For many crops, these additional costs are associated with declines in demand, surplus production, or disruptions to shipping patterns and marketing channels.

CFAP 2 will provide producers with financial assistance that gives them the ability to absorb weaker sales and increased marketing costs associated with the COVID-19 pandemic. Producers will receive payments under the Commodity Credit Corporation (CCC) Charter Act (Section 5 (b), (d) and (e)) with an estimated \$13.21 billion being made available (after payment limitations). Producers will be compensated for on-going market disruptions and to transition to a more orderly marketing system. Payments will assist producers with the purchase of materials and facilities required in connection with the production and marketing of agricultural commodities, aid in the removal or disposition of surplus agricultural commodities, and aid in the development of new and additional markets, marketing facilities, and uses for such commodities.

Payments will be made for three categories of commodities:

- ***Major commodities that meet the 5 percent price reduction trigger***—This category includes corn, soybeans, wheat (all classes), upland cotton, barley, sorghum, sunflowers, dairy, beef cattle, hogs and pigs, broilers, eggs, and lambs and sheep. The approach to calculating CFAP 2 payments is very similar to that used for CFAP 1 (which covered Quarter 1 of 2020), although the focus now is on Quarter 2 (Q2) through Quarter 4 (Q4) of calendar 2020. CFAP payment rates are based on the price decline calculated between mid-January and late-July and use an 80 percent coverage factor. Where available, mid-January and late July futures prices (for either the November or December contract) were used to estimate the market's price expectations toward the end of calendar 2020. Future contracts are not traded for all crops with a price trigger nor are they available for eggs, broilers, and lamb. For these commodities, actual prices received in mid-January and late July are used as a proxy. Depending on the yield for a given producer's crop in this category, the payment may calculate to less than \$15 per acre. In such cases, the payment is raised to \$15 per acre, which is the payment for the flat-rate category discussed below.
- ***Flat-rate crops***—These crops either do not meet the 5-percent price decline trigger noted above or do not have data available to calculate a price change. These crops include alfalfa, Extra Long Staple (ELS) cotton, oats, peanuts, and rice as well as crops with relatively small acreage—such as hemp, millet, mustard, safflower, sesame, triticale, rapeseed, and several others. Producers of these commodities receive a \$15 per-acre payment based on their 2020 production.

- ***Specialty (sales-based) commodities***—This category includes fruits, vegetables, and nuts; dry edible beans, lentils, dry edible peas, and chickpeas; and commodities including aquaculture, turkeys, mink, mohair, rabbits, and others. Payment calculations will use a sales-based approach, where producers are paid based on five payment gradations associated with their 2019 sales. In addition, tobacco is a specialty crop under CFAP 2 and a Coronavirus Aid, Relief, and Economic Security (CARES) Act (P.L.116-136) payment will be calculated using remaining CFAP 1 funds, not to exceed \$100 million.

The Farm Service Agency (FSA) is charged with implementing CFAP 2. FSA will accept CFAP applications starting on September 21, 2020 and payments to eligible producers will be issued when applications are approved. Net payments to producers of \$13.21 billion represent benefits to producers, which is the government cost of the program. Outlays are estimated at expected maximum levels.

Background and Need for Action

The severe demand shock associated with COVID-19 continues to affect U.S. crop and livestock sectors and is contributing to a decline in farm cash receipts. USDA’s Economic Research Service forecasts that cash receipts in calendar 2020 will decrease by \$12.3 billion (3.3 percent) to \$358.3 billion. For crops, responses to the COVID-19 pandemic resulted in prices for certain crops dropping from 7 to 18 percent between mid-January and late July (see Table 1) as widespread supply chain disruptions occurred. Restaurant closings and reductions in service sector demand severely affected the flow of commodities through supply chains as consumers shifted from an “eating out” paradigm to one focused on grocery store purchases and eating at home (Gasparro and Stamm). A dramatic decline in gasoline and ethanol use impacted corn prices as ethanol use accounts for nearly 40 percent of the corn crop. Although the U.S. economy has begun to rebound, the supply chain continues to re-orient and accommodate new consumer behavior.

Table 1. Price Changes from mid-January to late-July 2020 for Price-Trigger Crops^a

	Units	Average price, Jan 13-17	Average price, July 27-31	Change in price	Percent change
		\$/unit	\$/unit	\$/unit	Percent
Corn	bu	4.02	3.29	-0.73	-18%
Soybean	bu	9.63	8.91	-0.72	-7%
Wheat (all classes)	bu	5.57	4.89	-0.68	-12%
Cotton, Upland	lb	0.72	0.62	-0.10	-14%
Barley	bu	4.27	3.60	-0.67	-16%
Sorghum	bu	3.82	3.12	-0.70	-18%
Sunflowers	lb	0.18	0.16	-0.02	-11%

^a Average prices are rounded to two decimal places.

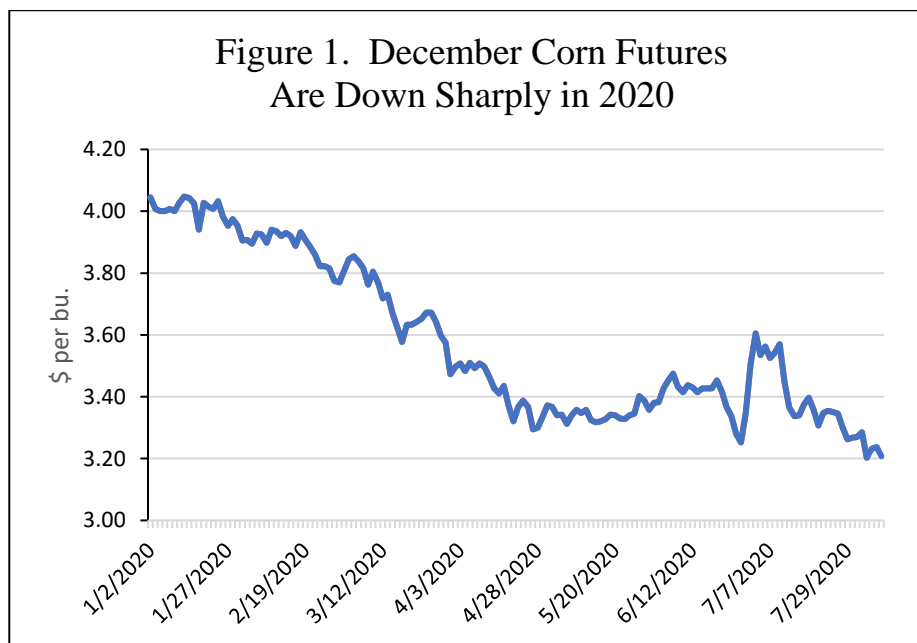
Note: Wheat prices are based on a production weighted composite of HRS, HRW, SRW futures. For crops with futures market data: December contracts are from CME for most crops other than soybeans (November contract). HRS wheat uses the December contract quoted on the Minneapolis Grain Exchange and upland cotton uses the December contract quoted on the Intercontinental Exchange (ICE). For non-specialty crops without futures contracts, Risk Management Agency (RMA) conversion factors utilizing futures contracts are employed when relevant and available. The price for sorghum is calculated as 95 percent of the corn futures price, which is consistent with the multiplicative factor used by the Risk Management Agency (RMA) under the Commodity Exchange Price Provisions (CEPP). The price of sunflowers is the soybean oil price divided by two, plus one cent, which is consistent with the CEPP for oil-type sunflowers. AMS data is used for other crops where futures contracts are not traded.

Market factors are exacerbating the impacts of COVID-19. With a rebound in acreage and generally good weather in the Midwest this summer, the United States is confronting very large crop supplies at the same time that COVID-19 has caused short-term demand weakness and distributional issues. Export competition remains intense, particularly for wheat, and the

COVID-19 impact could threaten U.S. export growth. Similarly, animal inventories are very large, as the supply chain was affected by processing disruptions and markets by the drop in food service demand. Prices for many non-specialty crops dropped significantly after the COVID-19 outbreaks. For example, corn, soybean, wheat, cotton, barley, sorghum, and sunflower prices fell by an average of 14 percent from mid-January to late July of 2020.¹

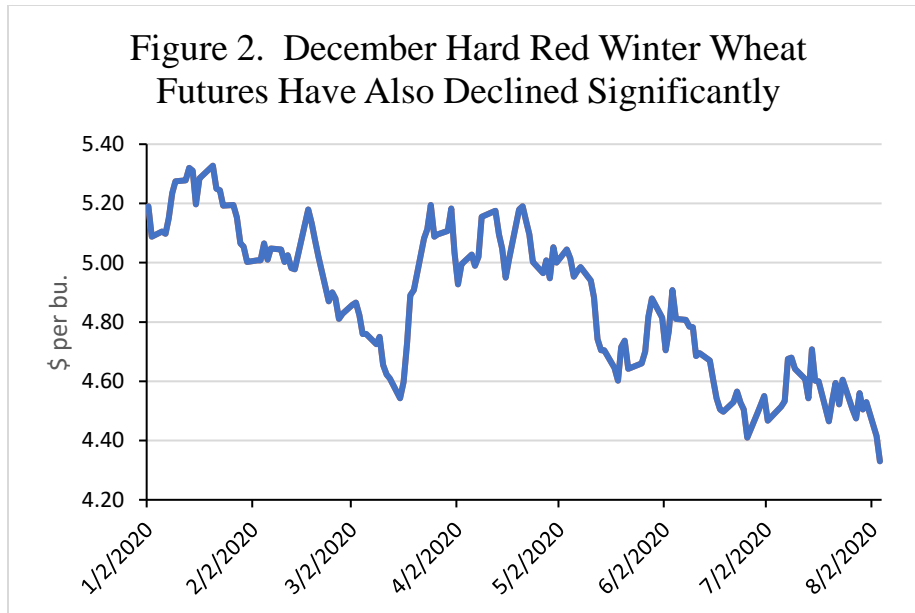
Additional information illustrates COVID-19’s impact. Data from USDA’s National Agricultural Statistics Service (NASS) indicate that wheat flour production surged in the first quarter of 2020 as stay-at-home orders prompted a rise in household baking, but in the second quarter slumped to a 9-year low. However, production of durum flour and semolina used for pasta (which is cheap, convenient, and shelf stable) increased to a record high for the second quarter. Corn use for ethanol remains a concern as gasoline demand has yet to fully recover (Gulke). In mid-April, weekly ethanol production had dropped about 50 percent relative to mid-April of the year prior and by the end of August was still 15 percent below a year earlier (DOE).

Corn and wheat futures prices have shown a steady decline in calendar 2020, with COVID-19 impacts and uncertainty a primary catalyst (Figures 1 and 2).



Source: Chicago Mercantile Exchange. Data are through August 7, 2020.

¹ In comparison, price changes for these same crops during the same period last year (mid-January 2019 to late July 2019) were relatively stable, experiencing an average price change of -3 percent.



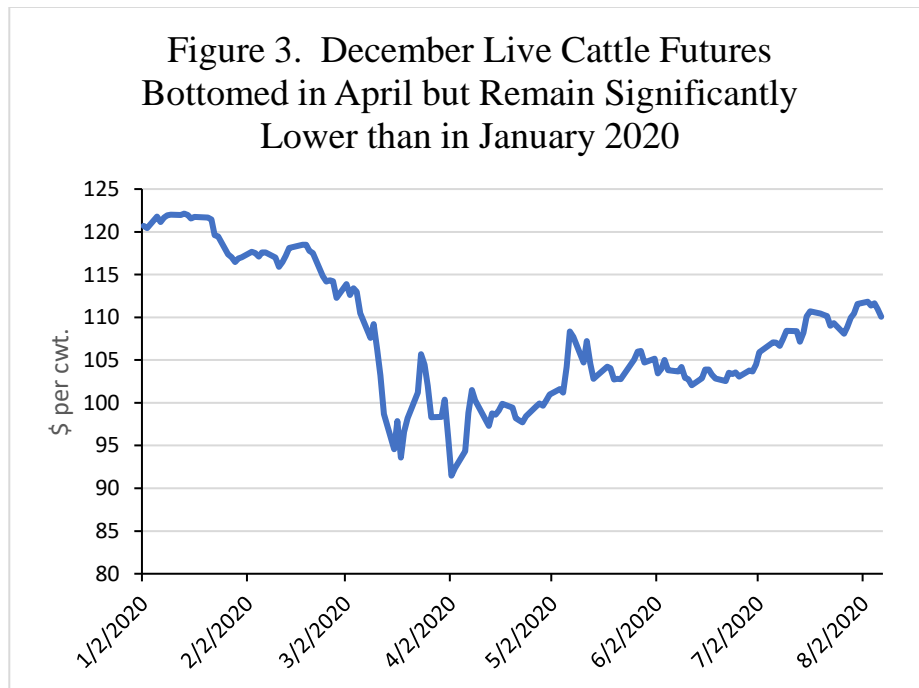
Source: Chicago Mercantile Exchange Data are through August 7, 2020.

Uncertainty continues to affect specialty crop producers as foodservice sales have not recovered to pre-pandemic levels, although gains in retail sales have provided some offset. Compounding the shift toward greatly increased at-home consumption, uncertainty about household income is another wildcard. A recent survey indicates that 30 percent of primary grocery shoppers state that their financial situation is “a little” or “a lot” worse than it was a year ago—which may cause shifts in consumption as well (Nickle). Against this backdrop, growth in retail (grocery store) vegetable sales has been much stronger than the growth for fruit sales, as has been the case for much of the pandemic. For the week ending July 26, 2020, for example, retail (grocery store) fresh vegetable sales were up 16.7 percent compared to the same week in 2019, while fresh fruit sales were up only 7.5 percent (Nickle). Elevated produce sales at retail are expected to continue as many people are still avoiding eating establishments and other gathering places due to COVID-19.

Among specialty crops, potatoes provide an illustration of the disruption and uncertainty that growers of specialty crops face due to COVID-19. In 2019, an all-time high of 58 percent of U.S.-grown potatoes went to foodservice, led by frozen French fries (Jennings). With closures of schools and foodservice establishments in March 2020, fry makers shut down lines and many told growers not to count on them buying as many processing potatoes in 2020, resulting in a projected 5 percent drop in total U.S. potato plantings (USDA, NASS). At the same time, grocery store sales increased, with fresh potato volume up 44 percent between March 16 and May 17, 2020 at retail, while frozen and dehydrated volume was up more than 50 percent (Jennings). Still, industry sources indicate that the drop in foodservice sales will not be overcome solely by retail sales. The National Potato Council’s weighted grower return index for russet shipments (including potatoes for fry processing) were in the \$12 to \$12.50 range in the first three months of calendar 2020, spiked to \$15.03 at the end of March, and declined to under \$9 by early June 2020 (Klompfen).

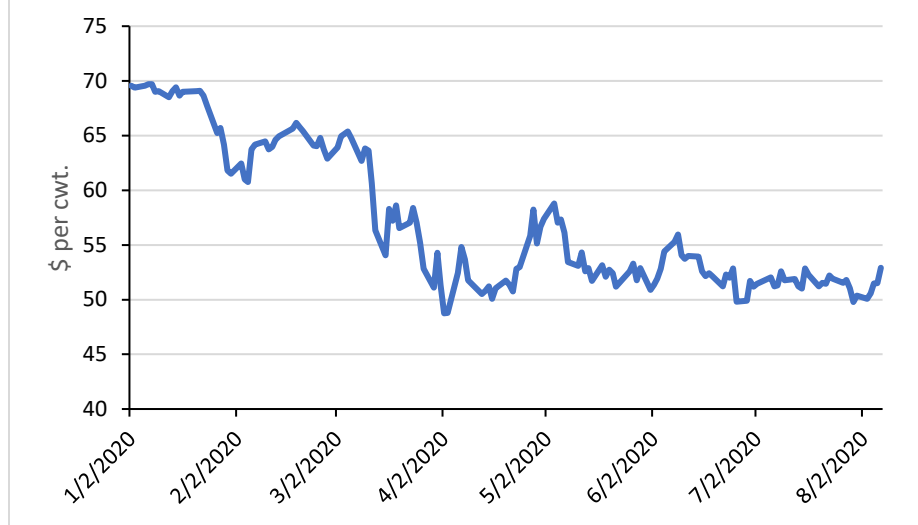
The livestock sector also continues to experience COVID-19 disruptions. Meat (beef and hog) production began to decline in early April, and by mid-May, was 40 percent below 2019 levels. Even as processing plants reopened, modified operations and revised processes (to accommodate the shift from restaurant to grocery store purchases) put constraints on production. Further, from April to June, more than 80 beef and pork packing plants reported confirmed cases of COVID-19 and at some plants, COVID-19 affected as many as 30 percent to 70 percent of the workforce. Almost half of the plants with outbreaks between April and June closed for some time (Cowley). Based on reduced capacity at meatpacking plants, the cumulative oversupply associated with disruptions in the supply chain may have been about 500,000 head of cattle and about 3 million hogs through the end of June (Cowley).

Such supply chain issues have resulted in higher retail prices—but weaker farm-level prices for some commodities. For example, Bureau of Labor Statistics data indicate that retail beef prices increased 11 percent from April to May, the largest monthly increase on record, although they have since declined over the summer (BLS; St. Louis Federal Reserve Bank). In contrast, December live cattle futures and December lean hog futures prices continued to decline—and still remain weak (Figures 3 and 4). Between the week of January 13-17, 2020 and July 27-31, 2020, the December lean hog futures contract average price fell by 26 percent. Between the week of January 13-17, 2020 and July 27-31, the December live cattle futures contract average price fell by 10 percent.



Source: Chicago Mercantile Exchange. Data are through August 7, 2020.

Figure 4. December Lean Hog Futures Have Seen a Significant Drop in Calendar 2020



Source: Chicago Mercantile Exchange. Data are through August 7, 2020.

Similarly, dairies are suffering from COVID-19 disruptions. Schools and restaurants—which are among the main purchasers of milk and milk products—suddenly closed and many openings appear uncertain as to the timing. Steep declines in restaurant traffic have affected the demand for processed cheese, butter, cream, sour cream, ice cream, and other dairy products. Between mid-January and late-July an estimated all-milk price (based on 60 percent of the Class III futures price and 40 percent of the Class IV futures price) fell by 12 percent.

The Secretary of Agriculture has determined that producers will be provided financial assistance under the CCC Charter Act² (15 USC 714c), netting to \$13.21 billion (after payment limitations), to help farmers and ranchers address market disruptions and oversupply which have affected transportation, storage, and other distribution costs. These disruptions are out of the ordinary range of predictable events for which producers are normally prepared. Producers of affected commodities have been—and will continue to—experience great uncertainty as they market commodities in this environment.

CFAP 2 provides farmers and ranchers with financial assistance during the continuing COVID-19 pandemic. This assistance helps reduce the impacts of prolonged financial hardships in an environment of significant market uncertainty—uncertainty both in terms of the persistence of

² The CCC Charter Act, Section 5 gives the Secretary authority to, among other things: support the prices of agricultural commodities; make available materials and facilities required to produce and market agricultural commodities; assist in the disposition of surplus commodities; increase the domestic consumption of agricultural commodities by expanding or aiding in the expansion of domestic markets or by developing or aiding in the development of new and additional markets, marketing facilities, and uses for such commodities; and export or cause to be exported, or aid the development of foreign markets for, agricultural commodities.

the virus and the ability of markets to quickly recover and return to stable demand levels with smoothly-functioning distribution systems.

Implementation

The Farm Service Agency (FSA) will take applications and issue CFAP 2 payments to farmers and ranchers for price-trigger commodities (including corn, soybeans, wheat, dairy, beef cattle, hogs and pigs, broilers, eggs, and lambs and sheep), flat-rate crops, and specialty commodities (including fruits, vegetables, nuts, dry edible beans, lentils, dry edible peas, chickpeas, aquaculture, and other livestock and livestock products). Farmers and ranchers will self-certify their claims.

The total payment that a person or legal entity may receive directly or indirectly through attribution of payments is \$250,000. (Note that this payment limitation is separate from the CFAP 1 payment limitation.) Payments made to a joint venture or a general partnership are limited to the aggregated amount of payments that each individual or legal entity member of the joint venture or general partnership may otherwise receive. Consistent with CFAP 1, the total amount of CFAP 2 payments made to a legal entity, such as to a corporation, limited liability corporation, limited partnership, trust, or estate is \$250,000 except:

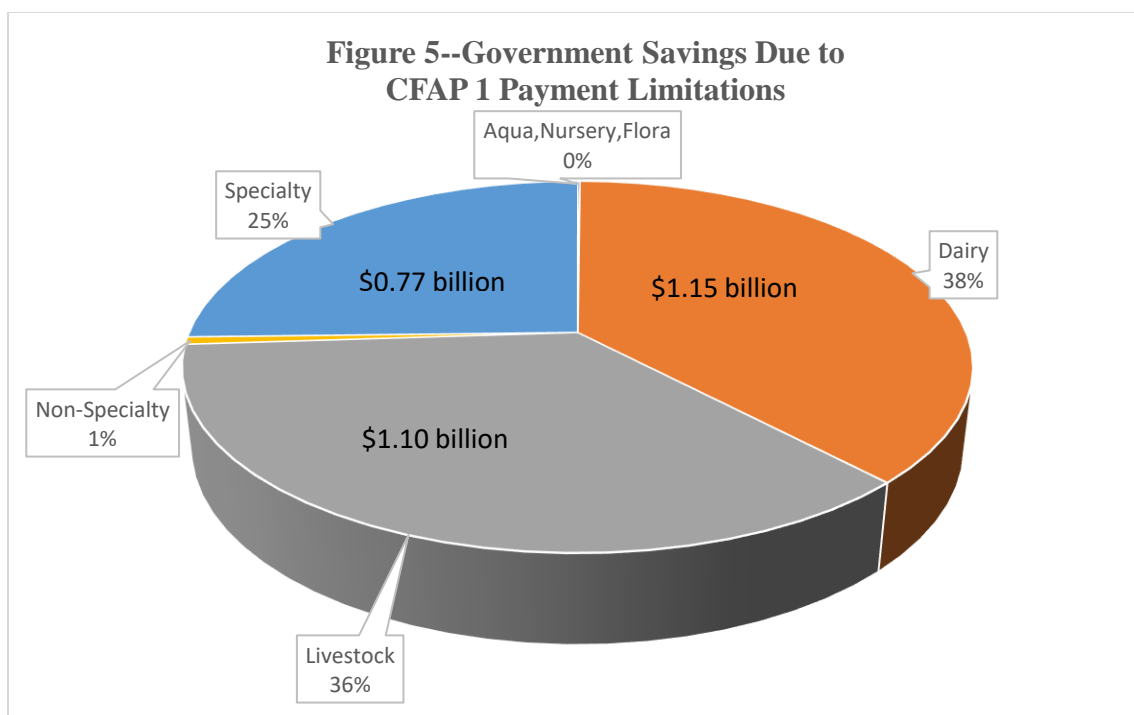
- The entity may receive \$500,000 if two different members of the legal entity each provide at least 400 hours of active personal labor or active personal management or combination thereof with respect to the production of 2020 commodities.
- The entity may receive \$750,000 if three different members of the legal entity each provide at least 400 hours of active personal labor or active personal management or combination thereof with respect to the production of 2020 commodities.

These provisions are separate from other payment limitations established by the 2018 Farm Bill. Further, USDA has determined that CFAP 1 and CFAP 2 are separate programs and that two separate payment limits are in effect due to the unprecedented and costly disruptions for agricultural producers associated with COVID-19. USDA's first CFAP program, whose rule was published on May 21, 2020, was designed to address disruptions that had occurred by April 15, 2020. As time passed, COVID-related impacts continue to cause unexpected changes and are forcing producers to develop or expand alternative markets and raising transportation, storage, and other distribution costs. This disruption is out of the ordinary range of unpredictable events for which producers are normally prepared. Producers of affected commodities are experiencing higher costs as they make management decisions on their operations and continue to market commodities in this environment. These payments will help producers adjust to disrupted markets, manage surplus commodities, and expand and develop new markets.

USDA's experience with the first CFAP program reveals that payment limitations have affected approximately 1 percent of CFAP 1 applications (6,000 unique applications divided by slightly more than 600,000 applications). These payment limitations (averaging across all eligible commodities) reflect 23 percent of payments that could have been made without payment limitations in place. (Said differently, payments were 77 percent of what they otherwise would

have been if no payment limit was in place.) As an example, if an individual producer had a “calculated” payment of \$600,000, his or her actual payment would be \$250,000 and the \$350,000 (\$600,000 minus \$250,000) would be what that producer “leaves on the table” due to the impact of the payment limitation.

Dairy and livestock operations have not historically been organized to minimize the impact of payment limitations. Of those commodities affected by CFAP 1 payment limits, dairy accounted for 38 percent of the payments that were reduced (about \$1.15 billion), livestock (largely cattle and hogs) accounted for 36 percent of reduced payments (about \$1.10 billion), specialty crops accounted for 25 percent (\$0.77 billion), and non-specialty crops accounted for 1 percent (less than \$20 million) (see Figure 5). Total CFAP 1 payment limitations saved the government \$3.04 billion.



Source: FSA administrative data.

A separate \$250,000 payment limit for CFAP 2 assists numerous livestock, dairy, and specialty crop operations that would otherwise not receive ANY additional payments under CFAP2 if the combined payment limit for CFAP 1 and CFAP 2 were limited to \$250,000. These producers have been—and are continuing to be—affected by the additional burdens and marketing costs imposed by COVID-19 and need assistance. In some of these specialty crop industries, a lack of assistance to these large growers could have significant ramifications for growers’ financial viability with resulting impacts on supply chains, prices, and product availability to consumers.

In addition, statements by members of Congress in letters to USDA and in the press make it clear that they intended for USDA to use \$23.5 billion to ensure producers can adjust, even if the payments came in tranches. They expect USDA to provide a level of support that is responsive

and in proportion to production, risk and losses (see, for example, Representative Panetta and others; Senator Moran and others).³ In the CARES Act, Congress could have—but did not—include any language to direct a single payment limit over all tranches of COVID-19 relief. In fact, USDA received a letter from 126 Members of Congress requesting that there be no payment limit for COVID-19 assistance.

Regarding Adjusted Gross Income (AGI), a person or legal entity is ineligible for CFAP 2 payments if the person's or legal entity's (including the legal entity's members) AGI, using the average AGI for the 2016, 2017, and 2018 tax years, is more than \$900,000 unless at least 75 percent of the person's or legal entity's average AGI is derived from farming, ranching, or forestry-related activities. If at least 75 percent of the person's or legal entity's average AGI is derived from farming, ranching, or forestry-related activities, the person or legal entity is subject to the payment limits discussed above.

The regulations in 7 CFR part 1400 Subpart E apply to the eligibility of foreign persons applying for CFAP 2. The regulations state that a [lawful alien](#)⁴ may receive a [payment](#), loan, and benefit if that person is in lawful possession, through a lease or otherwise, of a farm.

Economic Impacts

For price-trigger commodities, CFAP 2 payments to individual farmers and ranchers depend on price changes that occurred between mid-January and late-July, 2020; inventory levels for livestock, Q2-Q4 dairy production, or 2020 crop marketings; and an 80 percent payment factor. For certain livestock, dairy, fruits, vegetables, and nuts, the CFAP 2 payment rate is adjusted to account for CFAP 1 payments. Flat-rate commodities are paid a fixed \$15 per acre regardless of the crop. For specialty commodities (including tobacco), payments are based on a percentage of 2019 sales. The following sections are organized by the three payment categories noted in the Executive Summary.

³ Congress regularly mandates separate payment limits for safety-net programs. Under the 2018 Farm Bill, Congress provided separate payment limits for peanut base acres under the Agriculture Risk Coverage and Price Loss Coverage (ARC/PLC) programs. The 2018 Farm Bill created two separate payment limits for the Noninsured Crop Disaster Assistance Program (NAP): 1) \$125,000 for basic coverage and 2) \$300,000 for buy-up coverage. The Dairy Margin Coverage (DMC) program has no payment limits, and producers do not face limits regarding loan deficiency payments or marketing loan gains.

Price-Trigger Commodities

Crops

CFAP 1 payments have been made for unsold 2019 non-specialty crop inventory as of January 2020. CFAP 2 payments in this category are targeted to marketings of 2020 commodities for which data are readily available. These crops are eligible for CFAP 2 payments if a 5-percent-or-greater price decline was realized in a comparison of the average price for the week of January 13-17, 2020 and the average price for the week of July 27-31, 2020 (refer back to Table 1). Depending on the yield for a specific location, the producer's payment may calculate to less than \$15 per acre. In such cases, the payment is raised to \$15 per acre, which is the payment for the flat-rate category discussed below.⁵

If this price-decline trigger is met, the payment rate (column B in Table 2) is calculated by multiplying the mid-January to late-July price decline (column A) by an 80 percent coverage factor. Estimated 2020-crop marketings (expressed as a percent) through Q4 of calendar 2020 (Column D) are then applied to 2020 production data (column C) to arrive at the quantity of estimated marketings through the end of calendar 2020 (column E).

⁵ Given NASS yield data for 2019, there are few crop reporting districts in the U.S. with yields for price-trigger crops that would generate a lower rate than the \$15-per-acre flat rate. For example, only one crop reporting district (an aggregation of several counties) in the U.S. has a winter wheat yield less than the 28 bushels per acre at which the producer will be indifferent between the two rates. For soybeans, 0.3 percent of acreage at the crop reporting district level has a yield less than the 26 bushels per acre at which the producer will be indifferent between the two rates. While there will be individual farmers with yields low enough that the flat rate provides higher payments per acre, the 2019 NASS yield data does not suggest extensive systemic situations where this would be the case.

Table 2. Estimated CFAP 2 Payments for Price-Trigger Crops (not including payment limitations)

		Mid-Jan to late-July Price Delta (Decline) (Table 1)	Payment Rate (80% of Mid-Jan to late-July price decline)	100% of 2020 Forecasted Production ^a	Share of New (2020-Crop) Marketings Expected through December	Estimated Marketings	CFAP 2 Estimated Payments
Column designation =>	Units	A	B	C	D	E	F
		\$/unit	\$/unit	1,000 units	Percent	1,000 units	\$1,000
Corn	bu	\$0.73	\$0.58	15,278,000	40%	6,111,200	3,544,496
Soybean	bu	\$0.72	\$0.58	4,425,000	54%	2,389,500	1,385,910
Wheat (all classes)	bu	\$0.68	\$0.54	1,838,000	73%	1,341,740	724,540
Cotton, Upland	lb	\$0.10	\$0.08	8,412,000	46%	3,869,520	309,562
Barley	bu	\$0.67	\$0.54	176,000	63%	110,880	59,875
Sorghum	bu	\$0.70	\$0.56	371,000	55%	204,050	114,268
Sunflowers	lb	\$0.02	\$0.02	2,416,000	44%	1,063,040	21,261
Total							\$6,159,911

^a The 2020 production forecast is from the August 2020 USDA *World Agricultural Supply and Demand Estimates* (WASDE).

This estimated quantity (column E) is multiplied by the per-crop payment rate (column B) to arrive at estimated payments of \$6.16 billion (column F). The total amount after payment limits, using the payment limit reductions associated with CFAP 1 actual payments, indicate \$5.73 billion in CFAP 2 payments to non-specialty crop producers.

Dairy

The average futures price delta (decline) for milk from mid-January (column A in Table 3) to late-July (column B in Table 3) is calculated as \$2.13 per cwt (column C)—a change of about 12 percent. With an 80 percent factor applied to the price delta, the CFAP 2 payment rate—unadjusted for CCC-funded CFAP 1 payments—is \$1.70-per-cwt (column D). Milk production for Q2-Q4 of 2020 is projected at 1.656 billion cwt (column E), resulting in the estimated unadjusted gross payments of \$2.82 billion in column F (multiplying the unadjusted payment rate in column D by projected production in column E).

Subtracting CCC-funded CFAP 1 total payments as estimated in the CFAP 1 Cost-Benefit Analysis from column F, and then dividing by estimated Q2-Q4 milk production (column E), produces an adjusted payment rate of \$1.20 per cwt (column H). Gross estimated payments, when accounting for CCC-funded CFAP 1 payments and rounding the \$1.20 per cwt payment rate to the nearest cent, are equal to \$1.99 billion (column G). After taking into account the

impact of payment limitations (based on CFAP 1 data), net payments are estimated at \$1.34 billion.

Table 3. Estimated CFAP 2 Payments for Dairy (not including payment limitations)

	Average Price, Jan 13-Jan 17 ^a (\$/cwt)	Average Price, July 27-31 ^a (\$/cwt)	Price Delta (A-B)	Payment Rate at 80%, Unadjusted for CFAP 1 CCC Payments (80%*C) (\$/cwt)	Estimated Q2-Q4 Milk Production (million cwt) (August 2020 WASDE) ^b	Gross Estimated Outlays Unadjusted for CFAP 1 CCC Payments (D*E) (\$ mil)	Gross Estimated Outlays Adjusted for CFAP 1 CCC and payment (E*H) (\$ mil)	Payment Rate Adjusted for CFAP 1 CCC Payments (\$/cwt)
Column designation	A	B	C	D	E	F	G	H
	\$17.73	\$15.60	\$2.13	\$1.70	1,656	\$2,815	\$1,987	\$1.20

^a Calculated as the average of Class III (60% weight) and Class IV (40% weight) futures prices. While the all-milk price by construction will always be above the Class III and Class IV prices, the all-milk price generally follows the trend of the weighted average of 60% of the Class III price and 40% of the Class IV price.

^b The Quarter 2 estimate and Quarters 3-4 projections of milk production are from the August 2020 USDA WASDE.

The CCC payment will help offset additional costs incurred by dairy producers as they manage unexpected surpluses and additional marketing costs caused by the disruption to normal marketing channels due to COVID-19. Producers will certify April 1 to August 31, 2020 milk production, and their September 1 to December 31, 2020 milk production will be estimated. This per-producer amount will be multiplied by the \$1.20-per-cwt payment rate to obtain a producer's payment.

Beef Cattle

Beef cattle (excluding breeding stock) are eligible for CFAP 2 payments given that the average mid-January to late-July live cattle December futures price declined by \$12.10 per cwt., or 9.9 percent. Also, feeder cattle November futures declined 8.2 percent (\$12.77 per cwt) during the same time period. Column A and column B show the prices for feeder and fed cattle based on the futures contracts in mid-January and late-July, respectively. Subtracting column B from column A gives the price deltas for this period (column C). An 80 percent factor applied to the price deltas multiplied by estimated cattle marketings for Q2-Q4 (column D) gives the contribution of each cattle types to gross outlays unadjusted for CCC-funded CFAP 1 payments, which totals \$4.50 billion (column E). Dividing unadjusted gross outlays by marketable beef inventory (column F) gives \$88 per head (column G).

After adjusting for CCC-funded CFAP 1 payments of \$33 per head, the payment rate is \$55 per head (column I). Multiplying the adjusted payment rate (column I) by marketable beef inventory (column F) gives the outlays accounting for CCC-funded CFAP 1 payments and is equal to \$2.82

billion (column H). Using payment limitation factors derived from CFAP 1 data, net payments are estimated at \$2.52 billion.

Table 4. Estimated CFAP 2 Payments for Beef Cattle (not including payment limitations)

	Jan. 13 - 17: Price (\$/head)	Jul. 27 - 31: Price (\$/head)	Price Delta (A-B)	Marketings Estimate for Q2-Q4 (mil head)	Contribution to Gross Outlays, Unadjusted for CFAP 1 CCC (80%*C*D) (mil \$)	Total Marketable Inventory (mil head) ^a	Unadjusted Payment Rate (E/F) (\$/head)	Gross Outlays, Adjusted for CFAP 1 CCC (F*I) (mil \$)	Adjusted Payment Rate (G-\$33) (\$/head) ^b
Column Designation	A	B	C	D	E	F	G	H	I
Fed Cattle ^c	\$1,706	\$1,537	\$169	20.0	\$2,704				
Feeder Cattle (under 600 lbs) ^d	\$861	\$791	\$70	9.1	\$510				
Feeder Cattle (over 600 lbs) ^e	\$1,174	\$1,078	\$96	16.8	\$1,290				
Total				45.9	\$4,504	51.3	\$88	\$2,822	\$55

^aThe estimated marketable beef inventory is based on the July 2020 NASS *Cattle Inventory*. The estimate for marketable beef inventory includes, steers, heifers (beef replacement and other), and calves (not including an estimate for calves that will be milk heifer replacements). The estimate for calves that will become milk heifer replacements is equal to the number of milk replacement heifers greater than 500 pounds in the July 2020 NASS *Cattle Inventory*.

^b \$33 per head is the CCC-funded CFAP 1 rate for cattle.

^c Fed cattle usually weigh 14 hundredweight, so the fed cattle price per head is 14 multiplied by the live cattle December 2020 futures contract price (\$/cwt). Marketings for fed cattle are estimated from Q2-Q4 slaughter of heifers and steers in 2019.

^d The under 600-pound category price per head is the feeder cattle November 2020 futures contract price (\$/cwt) multiplied by 5.5 hundredweight, the typical weight of a weaned calf. The marketings for the feeder cattle under 600 pound category are estimated using a combination of sales data from the 2017 Census of Agriculture and the weekly *National Feeder & Stocker Cattle Summary* reports for weeks in April 2019 through December 2019.

^e The feeder cattle over 600-pound category price per head is the feeder cattle November 2020 futures contract price multiplied by 7.5 hundredweight, the typical weight of feeder cattle when placed on feed. Marketings are estimated from cattle placed on feed over 600 pounds for Q2-Q4 of 2019, estimated from the *Cattle on Feed* reports then divided by 82%. The dividing by 82% is because *Cattle on Feed* only reports placements of cattle on feed for feedlots greater than 1,000 head capacity. At the end of 2019, 82% of cattle on feed were on feedlots with a capacity greater than 1,000 head.

In practice, payments for beef cattle will be based on a fixed number head, which is equal to the lower of the producer's maximum owned inventory of eligible beef cattle, excluding breeding stock, on a date selected by the producer from April 16, 2020, through August 31, 2020, or 4,546 head multiplied by the number of payment limitations for the producer, multiplied by the payment rate of \$55 per head.

Hogs and Pigs

Hogs and pigs (excluding breeding stock) are eligible for CFAP 2 payments given that the average mid-January to late-July December lean hog futures price declined by \$39 per head. (column C of Table 5), or 26 percent. Gross outlays unadjusted for CCC-funded CFAP 1 payments are \$2.96 billion (column E), which is calculated as the price decline delta (column C) multiplied by 80 percent of the Q2-Q4 hogs projected to be slaughtered (column D).

Table 5. Estimated CFAP 2 Payments for Hogs and Pigs (not including payment limitations)

	Jan. 13 - 17: Price (\$/head) ^a	Jul. 27 - 31: Price (\$/head)	Price Delta (A-B)	Estimated Q2-Q4 Slaughter (mil head)	Contribution to Gross Outlays, Unadjusted for CFAP 1 CCC (80%*C*D) (mil \$)	Market hog and pig Inventory (mil head)	Unadjusted Payment Rate (E/F) (\$/head)	Gross Outlays, Adjusted for CFAP 1 CCC (F*I) (mil \$)	Adjusted Payment Rate (G-\$17) (\$/head)
Column	A	B	C	D	E	F	G	H	I
	\$148	\$109	\$39	95	\$2,964	73.3	\$40	\$1,686	\$23

^a Lean hog futures are converted to a per head basis using a 215 pound-per-head conversion factor.

The payment rate unadjusted for CFAP 1 CCC payments is \$40 per head (column G), which is column E divided by column F. Subtracting out the CCC-funded CFAP 1 rate of \$17 per head results in an adjusted CFAP 2 rate of \$23 per head (column I). Total expected gross CFAP 2 outlays, after adjusting for CCC-funded CFAP 1 payments, are \$1.69 billion (column H), which is column F multiplied by column I. Using payment limitation factors derived from CFAP 1 data, net payments are estimated at \$0.57 billion. The large difference between gross and net outlay estimates reflects the ineligibility of contract production along with payment limitations.

In practice, payments for hogs and pigs will be based on a fixed number of head, which is equal to the lower of the producer's maximum owned inventory of eligible hogs and pigs, excluding breeding stock, on a date selected by the producer from April 16, 2020, through August 31, 2020, or 10,870 head multiplied by the number of payment limitations for the producer, multiplied by a payment rate of \$23 per head.

Broilers

Broilers are eligible for CFAP 2 payments given that the average mid-January to late-July price delta, as reported by USDA's Agricultural Marketing Service (AMS), is \$0.2607 per pound (column C of Table 6), or 29 percent. Applying an 80 percent factor to column C, and

converting to a per-bird basis, provides a payment rate of \$1.01 per bird (column D). Only independent growers are eligible given that contract growers do not share in the ownership risk of marketing the birds that they raise and hence are not eligible for a CCC-funded CFAP payment. According to 2017 Census of Agriculture data and NASS survey data on broiler production, 96 percent of broiler production was under production contracts in 2017. Therefore, we assume 4 percent of broiler production will be paid \$280 million in gross payments (column F), which is calculated as the payment rate (column D) multiplied by 4 percent of 75 percent of 2019 broiler slaughter, a proxy of 2020 non-integrator slaughter for Q2-Q4 (column E).

Table 6. Estimated CFAP 2 Payments for Broilers (not including payment limitations)

	Average Price, Jan 13-Jan 17 (\$/lb) ^a	Average Price, July 27-31 (\$/lb)	Price Delta (A-B) (\$/lb)	Payment Rate for Broiler Owners (80%*4.86*C) ^b (\$/bird)	75% of 2019 Non-Integrator Production ^c (mil birds)	Gross Estimated Outlays (D*E) (\$ mil)
Column	A	B	C	D	E	F
	\$.9096	\$.6489	\$.2607	\$1.01	277	\$280

^a Prices are the National Composite Weighted Average from the AMS *Broiler Market News Report*.

^b The price decline is converted from a per-pound basis to a per-bird basis, which uses the average live weight of young chickens from January 2020-June 2020 (as reported in the NASS July 2020 *Poultry Slaughter* report) and a dressed percentage of 76 percent from the AMS *Broiler Market News Report* to give a dressed weight of 4.86 pounds per bird.

^c Non-integrator broiler production is calculated using the NASS *Poultry Slaughter* reported data for young chicken slaughter for 2019, then multiply by the 4 percent for the estimate of production outside of production contracts.

AGI considerations and payment limitations are expected to have a minimal impact on payments due to the typical size of these operations. In practice, producers will certify their 2019 production—broilers sent to slaughter in 2019—and be paid on 75 percent of that production.

Eggs

Under CFAP 2, rates are established for table eggs (those eggs intended for food use). The end uses for table eggs (shell, liquid, dried, and frozen) cannot easily be changed. For instance, many egg processing operations are “in-line” operations. These systems move eggs on conveyor belts from the hen houses directly to the processing facility (FSIS, 2015). Therefore, a separate payment rate determination is made for each end use, as shown in Table 7.

All four uses are determined to be eligible for CFAP 2, based on a 5 percent price trigger. Column A and B show the prices for the different types in mid-January and late July, respectively. Liquid egg prices were not reported for the weeks of January 17th and July 31st in the AMS *Processed Eggs: Weekly National Egg Product* report; as a result, proprietary data for liquid eggs is used. While liquid eggs experienced a negative price change greater than 5 percent, no price data for liquid eggs is presented here because of the proprietary nature of the data. The other egg categories utilize price data from AMS. Column C shows the price deltas, calculated as column A minus column B.

Rates for shell eggs and processed eggs are the price deltas multiplied by an 80 percent factor. Because shell eggs and dried eggs were not covered by CFAP 1, no adjustment for CCC-funded CFAP payments are needed for these payment rates and hence, the payment rates in columns D and G in Table 7 are identical for these categories. In contrast, frozen and liquid eggs were added to CFAP 1 and their CFAP 2 payment rates are adjusted downward by one-third of the CFAP 1 CCC payment rate (column G). Gross CFAP 2 payments will be made based on the adjusted payment rates (column G) and 75 percent of 2019 production (column E), resulting in estimated gross payments of \$333 million (column F). Note that column E—75 percent of 2019 production—provides a proxy for Q2–Q4 production.

Table 7. Estimated CFAP 2 Payments for Eggs (not including payment limitations)

	Unit	Price for Mid-Jan. (\$/unit)	Price for Late July (\$/unit)	Price Delta (A-B) (\$/unit)	Unadjusted Payment Rate (80%*C) (\$/unit)	75% of 2019 Production (mil. units) ^a	Gross Estimated Outlays (E*G) (\$ mil.)	Adjusted Payment Rate (\$/unit)
Column		A	B	C	D	E	F	G
Shell Eggs ^b	dozen	\$0.46	\$0.40	\$0.06	\$0.05	4,199	\$210	\$0.05
Liquid Eggs ^c	pound	-	-	-	\$0.05	2,391	\$104	\$0.04
Dried Eggs ^d	pound	\$2.15	\$1.98	\$0.17	\$0.14	110	\$15	\$0.14
Frozen Eggs ^d	pound	\$0.53	\$0.45	\$0.08	\$0.06	82	\$4	\$0.05
Total							\$333	

^a To estimate 75 percent of table egg production, 75 percent is multiplied by the *WASDE* estimate for 2019 egg disappearance. Egg disappearance excludes eggs produced for hatching use. Based on analyst expertise, 70 percent of table eggs are assumed to go into the shell market. Dried and liquid egg production are estimated using *AMS Weekly Shell Eggs Processed Under Federal Inspection* reports. While there is no frozen egg production estimate available, we assume that at most 1 percent of table eggs are used for the frozen egg market.

^b The shell egg price is the National Shell Egg Index Price for large eggs from the *National Shell Egg Index Price Report*.

^c Liquid egg price data are not shown to maintain confidentiality of proprietary data.

^d Prices are from the *AMS Processed Eggs: Weekly National Egg Product* report, using the midpoints for “Whole” eggs of the “Mostly” columns.

Because the egg industry is heavily consolidated, determining the impact of payment limitations remains difficult since not all egg uses were included in CFAP 1. We estimate the impact of these limitations will be similar to the dairy industry, resulting in a conservative net payment estimate of \$224 million.

Lambs and Sheep

Market lambs and market sheep (excluding breeding stock) are eligible for CFAP 2 payments given that the average mid-January (column A of Table 8) to late-July price (column B of Table 8) difference, as reported by USDA’s Agricultural Marketing Service, is \$51 per head (column C

of Table 8), or 26 percent. Multiplying the price decline delta by estimated Q2-Q4 lamb and sheep slaughter (column D) and applying an 80 percent factor, results in \$69 million (column E) in gross outlays unadjusted for CCC-funded CFAP 1 payments.

Dividing these projected additional costs by NASS’s estimate of market inventory of sheep and lambs that include replacements (column F) provides an unadjusted payment rate of \$34 per head (column G). Total expected gross CFAP 2 outlays, after adjusting for CCC-funded CFAP 1 payments, are \$55 million (column H), which is column F multiplied by column I. Netting out the CFAP 1 CCC rate leads to an adjusted rate of \$27 per head (column I).

Table 8. Estimated CFAP 2 Payments for Market Lambs and Market Sheep (not including payment limitations)

	Jan. 13 - 17: Price (\$/head)	Jul. 27 - 31: Price (\$/head)	Price Delta (A-B)	Estimated Q2-Q4 Slaughter (mil head)	Contribution to Gross Outlays, Unadjusted for CFAP 1 CCC (80%*C*D) (mil \$)	Market sheep and lamb inventory (mil head)	Unadjusted Payment Rate (E/F) (\$/head)	Gross Outlays, Adjusted for CFAP 1 CCC (F*I) (mil \$)	Adjusted Payment Rate (G-\$7) (\$/head)
Column	A	B	C	D	E	F	G	H	I
	\$200	\$149	\$51	1.7	\$69	2.05	\$34	\$55	\$27

Flat-Rate Crops

Flat-rate commodities—including alfalfa, canola, ELS cotton, and others—receive \$15 per acre regardless of the crop. These markets have seen costs increase directly and, in the case of alfalfa, indirectly. Alfalfa—for which markets are largely regional—realized a major disruption when COVID-19 affected dairy consumption. Regional AMS data show a decrease in direct sales, while auction sales, which are usually small-scale operations buying small amounts of alfalfa, and which can skew sale prices, did not have a dramatic decrease.

ELS cotton provides an example of a direct impact due to the severe decline in demand from the textile and apparel industries.⁶ Production and marketing costs also increased. Those costs include warehouse storage charges and interest expense for stored cotton, much of which is under FSA loan.⁷ After one month into the new 2020 marketing year, about one-third of the 2019 ELS crop still remains under loan as compared with just 7 percent of the 2018 crop at a comparable point in time, even though the 2019 crop was 14 percent smaller. As of August 31,

⁶ ELS cotton is an export-driven market as domestic use is minimal (typically about 25,000 bales annually). In its February WASDE report, USDA projected 2019 ELS cotton exports at 700,000 bales. In comparison, the August WASDE had reduced projection of 2019 ELS exports to 506,000 bales, a reduction of almost 28 percent. The 2019 ELS ending stocks-to-use ratio is projected at 73.3 percent, well above historical levels.

⁷ ELS cotton producers are responsible for all storage and interest costs for ELS cotton under loan, unlike the upland cotton marketing loan.

2020, outstanding ELS loans for 2019 were nearly triple the level of 2018 outstanding loans on August 31, 2019.

Other commodities in the flat-rate category were also affected, albeit in different ways. For example, demand for rice, peanuts, and certain other non-perishable foods increased, but buyers were concerned about the consistent flow of commodities (see, for example, *Peanut Farm Market News*).

The \$15 flat rate was chosen because \$15-per-acre generally falls along the lower end of the yield distribution for CFAP 2 price-triggered crops. For example, NASS data from 2019 indicate that soybean, wheat, and barley producers on the lower end of the yield distribution would receive CFAP 2 payments of approximately \$15 per acre. In addition, \$15/acre set the non-specialty crop payment floor for the 2019 Market Facilitation Program.

Total gross payments for key crops in this category, using planted and failed acres as reported to FSA by August 2020 for 2020 crops and the \$15 per-acre rate, are \$345.79 million (Table 9). With payment limitations taken into account, net payments for flat-rate crops are estimated at \$320 million.

Table 9. Selected Flat-Rate Crops

	Flat Payment rate	FSA Reported Planted and Failed Acres as of August 2020	Gross Flat-Rate Estimated Payments
<i>Units</i>	<i>\$/acre</i>	<i>acres</i>	<i>in \$1,000</i>
	A	B	C
Alfalfa	\$15	9,357,024	\$140,355
Canola	\$15	1,538,823	\$23,082
Cotton, ELS	\$15	104,038	\$1,561
Crambe	\$15	730	\$11
Flax	\$15	256,054	\$3,841
Hemp	\$15	45,774	\$687
Millet	\$15	958,016	\$14,370
Mustard	\$15	78,899	\$1,183
Oats	\$15	2,130,627	\$31,959
Peanuts	\$15	1,582,211	\$23,733
Quinoa	\$15	5,184	\$78
Rapeseed	\$15	7,723	\$116
Rice	\$15	2,828,625	\$42,429
Rye	\$15	1,039,525	\$15,593
Safflower	\$15	118,884	\$1,783
Sesame	\$15	191,501	\$2,873
Sugar Beets	\$15	1,035,270	\$15,529
Sugarcane	\$15	652,394	\$9,786
Triticale	\$15	1,121,210	\$16,818
Total for flat-rate crops in this table			\$345,788

Specialty Commodities

Rather than use the CFAP 1 approach with multiple “bins,” a simplified methodology is used for specialty commodity producers under CFAP 2, where payments are based on the percent of 2019 farm sales (as a proxy for 2020 marketings). Producers will self-certify their 2019 specialty commodity sales, to their local FSA office. Specialty commodity payments are made based on the producer’s 2019 sales in a declining block format using the payment rate factors shown in Table 10. The percentages in the “percent payment factor” column are based on regression

analysis estimating variable crop expenses as a proportion of fruit, vegetable, and nut sales, using data from USDA’s 2018 Agricultural Resource Management Survey (ARMS).⁸

Table 10. Payment Gradations for Specialty Commodities Based on the Producer’s 2019 Sales Ranges

2019 Sales Range	Percent Payment Factor for the Producer’s 2019 Sales Falling in the Range
Less than \$50,000	10.6%
Next \$50,000-\$99,999	9.9%
Next \$100,000-\$499,999	9.7%
Next \$500,000-\$999,999	9.0%
All sales over \$1 million	8.8%

Several examples help illustrate the calculation of an individual producer’s payment. Farmer 1 in Table 11 has \$8,265 in 2019 sales (from column A), so only the 10.6 percent payment factor applies and the farmer’s gross payment is 10.6 percent multiplied by \$8,265, or \$876 (column B). In contrast, Farmer 2 has 2019 sales of \$66,187 (from column A), so two payment factors apply: 10.6 percent (applied to the first \$49,999 in sales) and 9.9 percent (applied to \$66,187 minus \$50,000, or \$16,187 in sales). This farmer’s payment is the sum of the first gradation (10.6 percent times \$49,999, or \$5,300) and the second gradation (9.9 percent times \$16,187, or \$1,603), for a total payment of \$6,903.

⁸ USDA’s Economic Research Service provided ARMS farm sales and production cost data for eight sales class ranges. Regression analysis was used to fit the relationship between variable crop expenses as a proportion of specialty crop sales and the log of the bottom range for each category, excluding producers in the under \$10,000 sales category, as their total variable costs exceeded their sales. Fitted variable crop expenses as a proportion of specialty crop sales were calculated for each of the five ranges used here, with the bottom of the less than \$50,000 range being treated as \$10,000 to smooth out the relationship between the ratio and the bottom of the sales range.

Note that a producer’s effective payment rate (shown in column H and calculated as the total gross payment divided by 2019 farm sales) declines as a producer’s 2019 specialty crop farm sales increase. For Farmer 1, who has low 2019 sales, the effective rate is 10.6 percent—the same as the payment percentage for the “less than \$50,000” gradation. In contrast, the effective payment rate for a producer with over \$1 million in 2019 sales—and whose payment calculation spans five gradations—the effective payment rate is 6.3 percent. The large drop in the effective payment rate for Farmer 5 relative to Farmer 4 is due to the \$250,000 payment limit. Farmer 5 receives only \$155,950 of the \$262,101 in column F in order to keep his total payments from exceeding \$250,000. Payments are not limited for Farmers 1 through 4.

Table 11. CFAP 2 Calculations for Five Hypothetical Specialty Commodity Producers

Example Farmer	2019 Farm Sales	Portion of farmer’s total payment falling into each sales range					Total Gross Payment	Effective Rate (payment limited for Farmer 5)
		<\$50,000 in Sales (10.6%)	\$50,000 to \$99,999 in Sales (9.9%)	\$100,000 to \$499,999 in Sales (9.7%)	\$500,000 to \$999,999 in Sales (9.0%)	> \$1 mil Sales (8.8%)		
Column designation=>	A	B	C	D	E	F	G	H
Farmer 1	\$8,265	\$876					\$876	10.6%
Farmer 2	\$66,187	\$5,300	\$1,603				\$6,903	10.4%
Farmer 3	\$220,737	\$5,300	\$4,950	\$16,712			\$21,962	9.9%
Farmer 4	\$686,650	\$5,300	\$4,950	\$38,800	\$16,798		\$65,848	9.6%
Farmer 5	\$3,978,421	\$5,300	\$4,950	\$38,800	\$45,000	\$262,101	\$356,151	6.3%

Fruits, Vegetables, and Nuts

Many fruit, vegetable, and nut growers are realizing additional COVID-19 costs that are likely to continue for some time. These costs include: social distancing on pack/sorting lines that reduce productivity; administrative costs associated with additional record-keeping and monitoring (e.g., reporting, contact tracing, education); additional cleaning of buildings and machinery; and the costs of personal protective equipment for workers (masks, gloves, etc.) (ERA Economics).

In addition, the impacts of COVID-19 vary across fruit, vegetable, and nut types and regions. For example, areas like the Imperial Valley and Central Coast of California that were in the middle

of harvest and planting decisions when COVID-19 shutdowns occurred realized greater impacts than areas that were not making planting decisions. Yet other industries such as export nuts, realized impacts as shipments were delayed, transportation costs increased, and ports (e.g. India) were shut down (Tomato News).

Overall data availability for fruits, vegetables, and nuts is more limited than for price-trigger crops and for livestock and dairy, but better than for some flat-rate crops. Under CFAP 1, price-trigger payment rates could only be determined for a subset of specialty crops and a Notice of Funds Availability approach was used to obtain information on crops for which public data was not available. The NOFA process was time-consuming and cumbersome, however. Further, many growers produce and sell multiple types of specialty crops.

Given that some price and production information is available for major specialty crops, a different approach is used for CFAP 2. Lost revenue for Q2-Q4 of 2020 relative to 2019 sales is estimated to reflect adjustments to COVID-disrupted markets. The Agricultural Marketing Service's (AMS's) Market News provides monthly data for shipments of many fresh fruits and vegetables. The National Agricultural Statistics Service (NASS) publishes monthly prices for major fresh-market fruits and vegetables. Given data availability at the time the calculations were made, it was possible to compare sales over January to May 2019 to sales in January to May of 2020.

This sales data captures only a portion of total specialty crop sales as: 1) not all crops are included in either the NASS or AMS data sets; 2) crops for processing are not included; and 3) data beyond the first five months of 2020 was not available. Table 12 provides an overview of the calculations. Commodities with lower expected sales in 2020 due to COVID-19 were aggregated and expressed as percentages of total 2019 sales of those crops (rows 3 and 4 of table 12). Those percentages are then assumed to apply for the remainder of 2020 for all fruit, vegetable, and nut crops.

Based on this approach, the total decline in Q2-Q4 2020 sales due to disrupted markets for the subset of crops with lower sales in 2020 than in 2019 is estimated at \$6.026 billion (row 7 in table 12). Total specialty crop (fruit, vegetable, and nut) payments of \$4.52 billion are calculated as \$6.026 billion times the 80 percent coverage rate, less \$300 million (rounded) in estimated CCC-funded CFAP 1 payments for fruit, vegetable, and nuts (row 8 in Table 12).

The payment percentages applied to the farmer's 2019 sales, as described in Tables 10 and 11, were chosen to keep total specialty crop payments near \$4.52 billion while maintaining the same proportions across sales classes as the respective ratios of variable costs to specialty crop sales. For example, the payment rate for column E is 7 percent lower than for column D, as is the ratio of variable costs to sales.⁹

⁹ Sales decreases are used to estimate the total expected costs for adjustments to COVID-disrupted markets for specialty crops, and to assist farmers in adjusting to these disrupted markets. Hence, at the farm level, payments are made based on 2019 sales, rather than on the farmer's sales loss in 2020 relative to 2019. Payments under the CCC are to facilitate farmer adjustment to COVID-disrupted markets. The revenue decrease calculations were made at the aggregate level to provide an overall measure of disruption to market demand, not to compensate farmers for their losses.

Table 12. Calculation of Total Payments for Fruit, Vegetable, and Nut Sales

<p>1. Agricultural Marketing Service’s (AMS) monthly shipping data (Q) and the National Agricultural Statistics Service’s (NASS) monthly prices (P) for fresh market produce are the basis for the calculations below. These data were available through May 2020 at the time the calculations were developed.</p>
<p>2. Gross returns for January-May 2019 and January-May 2020 were calculated as the sum of price (P) multiplied by quantity (Q) for each month and for each specialty crop for which NASS constructs the monthly price based on AMS data.</p>
<p>3. The 2019 sales data were then broken into two groups—one that had sales gains in 2020 relative to 2019 and one that had sales decreases in 2020 relative to 2019. The data show that 60 percent of January-May 2019 crop sales were lower in January-May 2020.</p>
<p>4. The weighted average decrease for these “decrease” crops was 27 percent.</p>
<p>5. 2019 fruit, nut, and vegetable sales were \$49.59 billion (Source: USDA, Economic Research Service, Farm Income and Wealth Statistics, February 2020 release).</p>
<p>6. The January-May factors were extrapolated to the end of the year by assuming a 27 percent average decrease on 60 percent of 2019 fruit, nut, and vegetable sales.</p>
<p>7. The market disruption for Quarters 2 through 4 is: \$6.026 billion = (75 percent of the year) times (60 percent of 2019 sales having decreases in 2020) times (the 27 percent average decrease for crops that had 2019 to 2020 decreases) times \$49.59 billion in 2019 fruit, nut, and vegetable sales.</p>
<p>8. The target for total specialty crop (fruit, vegetable, and nut) payments of \$4.52 billion is calculated as the \$6.026 billion disruption times the 80 percent coverage rate, less \$300 million (rounded) in estimated CCC-funded CFAP 1 payments.</p>

Due to rounding the percent payment factors to the nearest tenth of a percent, gross payment outlays for fruits, vegetables, and nuts are anticipated at \$4.52 billion. When payment limits are included, estimated net fruit, vegetable, and nut payments are \$1.80 billion. In addition, tobacco is a specialty crop under CFAP 2 and a CARES payment will be calculated using remaining CFAP 1 funds, not to exceed \$100 million.

Dry Edible Beans, Lentils, Dry Edible Peas, and Chickpeas

USDA’s Agricultural Marketing Service classifies dry edible beans, lentils, dry edible peas, and chickpeas as specialty crops. As a result, they are included in the specialty (rather than flat-rate) category. Prices for some of these crops may not have declined, as with producers of other commodities. However, growers have been affected by the sharp decline in restaurant sales, the shift from institutional packaging to retail size, and the resulting market disruptions. Further, an industry source indicates that producers are concerned that consumers have stocked up on non-perishable commodities such as beans, but have not consumed them, which could put pressure on the market later in the year.

The payment estimation approach used for these commodities is the same percentage-of-sales approach that is used for the fruit, vegetable, and nut calculations detailed above. The estimate for Quarters 2-4 is calculated as: 75 percent of the year, multiplied by 60 percent, multiplied by 27 percent, multiplied by the 2019 value of sales (estimated from NASS annual surveys).¹⁰ This estimate is then multiplied by the 80-percent coverage level to arrive at the estimated total payment. Total payments for these four crops, as shown in Table 13, are \$92.27 million. Net estimated payments, taking into account payment limitations, are \$85.83 million.

Table 13. Estimated CFAP 2 Payments for Dry Edible Beans, Lentils, Dry Edible Peas, and Chickpeas

Commodity	2019 Farm Sales	Gross Total Estimated Payments
Dry Edible Beans	\$541,086,000	\$ 52,593,559
Lentils	\$78,779,000	\$ 7,657,319
Dry Edible Peas	\$212,328,000	\$ 20,638,282
Chickpeas	\$117,056,000	\$ 11,377,843
Total	\$949,249,000	\$92,267,003

¹⁰ The 60 and 27 percent figures are from Table 12. Total 2019 specialty crop sales were separated into two groups, one that had lower sales in 2020 and one that had higher sales in 2020. The 60 percent value is the share of 2019 specialty crop sales that is lower in 2020. The 27 percent factor is the (2019 sales-weighted) average percent change in 2020 sales versus 2019 sales for this group of crops that had lower sales. These factors were calculated for specialty crops for which NASS publishes monthly price data. As NASS does not calculate monthly prices for all specialty crops, the goal behind calculating these factors was to be able to extrapolate the disruption for the specialty crops having available data to all specialty crops. Due to lack of publicly available price data, the total estimated payments for dry beans, lentils, chickpeas, and dry peas, and for the other commodities in the next section are calculated using the estimated rates for specialty crops.

Other Commodities

Other commodities in the specialty crop category include, but are not limited to, aquaculture, turkeys, honey, mohair, mink, and others (Table 14). These commodities do not have readily available data (with the exception of turkeys and wool; see footnote to the table) and are very diverse.

Aquaculture, for example, is the largest industry in the “other commodity” category. According to a U.S.-wide survey conducted by Virginia Cooperative Extension (in collaboration with Ohio State University Extension), 84 percent of respondents in the aquaculture, aquaponics, and allied industries reported that they had lost sales due to COVID-19 in the first quarter of calendar 2020 (van Senten, et al.). Lost sales result in additional feed costs, as producers must continue to feed fish that would otherwise be sold and then incur costs associated with freezing (increasing electrical and storage costs).¹¹ Further, 43 percent of the respondents reported input challenges (feed, chemicals, therapeutants, etc.) and 32 percent reported repair, construction, consultant or engineering service challenges.

Turkey growers face a similar situation as restaurant consumption is severely curtailed. Turkey growers have had to either keep more live turkeys than usual, increasing feed and other costs, or store frozen meat, increasing electrical and storage costs. Growers have been left with extra turkeys or had to cancel their request from hatcheries, still paying at least some of the costs for the canceled poults (young turkeys) on order.

The payment estimation approach used for these commodities is the same percentage-of-sales approach that is used for the fruit, vegetable, and nut calculations detailed above. The estimate for Quarters 2-4 is calculated as: 75 percent of the year, multiplied by 60 percent multiplied by 27 percent (average estimate) multiplied by the value of sales (from the 2017 Census of Agriculture, except for turkeys and wool, which are on a 2019 basis). This estimate is then multiplied by the 80-percent coverage level to arrive at the estimated total payment. Total payments for these livestock-related commodities, as shown in Table 14, are \$313 million. Net estimated payments, taking into account payment limitations, are \$279 million.

¹¹ Sixty percent also indicated that holding product makes it less marketable. Asked about the effects on marketability of products, respondents acknowledged both reduced quantities sold (71 percent) and reduced price (68 percent) for products.

Table 14. Estimated Payments for Selected Other Specialty Commodities^a

Category	Value of Farm Sales Based On 2017 Census Data (thousand dollars)	Gross Total Estimated Payments (thousand dollars)
Aquaculture	\$1,373,806	\$133,534
Turkeys ^b	\$825,739	\$80,262
Honey	\$320,425	\$31,145
Goats	\$163,648	\$15,907
Pheasants	\$140,233	\$13,631
Ducks	\$125,324	\$12,182
Bison ^c	\$120,186	\$11,682
Quail	\$61,981	\$6,025
Wool ^b	\$45,364	\$4,409
Alpaca	\$15,478	\$1,504
Rabbits	\$9,167	\$891
Guinea pigs	\$3,888	\$378
Mohair	\$2,586	\$251
Llama	\$2,435	\$237
Geese	\$1,793	\$174
Ostriches	\$1,595	\$155
Mink	\$755	\$73
Emu	\$746	\$72
Total for commodities in this table		\$312,512

^a Breeding stock, companion animals/pets, and animals used for recreation/sport are not eligible for CFAP 2 payments. Note that this table includes select commodities; others are also eligible, including deer, elk, reindeer, and Christmas trees.

^b The value of sales for turkeys and wool is based on 2019 production. Only independent turkey production is eligible for CFAP 2 payment; the turkey data are adjusted to reflect non-contract production.

^c The Census definition of bison includes buffalo. Census data include beefalo in the “cattle” category. For CFAP 2 purposes, both buffalo and beefalo are treated as sales-based commodities.

Aggregate Payments

The total gross value of CFAP 2 payments is estimated at \$18.61 billion before payment limitations are imposed and the net value is \$13.21 billion (Table 15).

Table 15. Estimated CFAP 2 Payments by Commodity Group

Commodity Group	Estimated Gross Payments (in billion \$)	Estimated Net Payments after Payment Limitations (in billion \$)
Price Trigger Commodities:	\$13.33	\$10.72
Row Crops	\$6.16	\$5.73
Dairy	\$1.99	\$1.34
Beef Cattle	\$2.82	\$2.52
Hogs and Pigs	\$1.69	\$0.57
Broilers	\$0.28	\$0.28
Eggs	\$0.33	\$0.22
Lambs and Sheep	\$0.06	\$0.06
Flat-Rate Commodities	\$0.34	\$0.32
Specialty Commodities:^a	\$4.94	\$2.17
Fruits, Vegetables, and Nuts	\$4.54	\$1.80
Dry Edible Beans, Lentils, Dry Edible Peas, and Chickpeas	\$0.09	\$0.09
Others	\$0.31	\$0.28
Total	\$18.61	\$13.21

^a Does not include up to \$100 million in CARES funding for tobacco assistance.

Costs and Benefits from the Producer Perspective

The estimated costs to the Federal government, at a net of \$13.21 billion, are also the benefits to producers. This is a transfer from the Federal government to producers. The specifics below summarize how the calculations above apply to producers:

The payment (benefit) to an individual producer of non-specialty crops is calculated using:

- 2020 estimated production (calculated as 2020 reported acres multiplied by the producer's individual actual production history (APH)). If an APH yield is not available for the producer, a county-derived yield will be used.
- an estimate of the national percent marketed in calendar year 2020 (this percent varies by commodity, as shown in Table 2).
- the announced payment rate per unit for the crop (see column B of Table 2 above). (Note that CFAP 1 applied to 2019 marketings and, as a result, no adjustment is made to CFAP 2 payments for any non-specialty crop CFAP 1 payments, unlike the case for several commodities below.)
- depending on the yield for a specific location, the producer's payment may calculate to less than \$15 per acre. In such cases, the payment is raised to \$15 per acre, which is the payment for the flat-rate category discussed below.

For dairy, using:

- April 1 to August 31, 2020 "actual" certified milk production and September 1 to December 31, 2020 estimated milk production.
- the announced payment rate for milk of \$1.20 per hundredweight (which has been adjusted for CFAP 1 coverage, as discussed above).

For beef cattle, using:

- the lower of the producer's maximum owned inventory of eligible beef cattle, excluding breeding stock, on a date selected by the producer from April 16, 2020, through August 31, 2020, or 4,546 head multiplied by the number of payment limitations for the producer.
- the announced payment rate of \$55 per head (which has been adjusted for CFAP 1 coverage, as discussed above).

For hogs and pigs, using:

- the lower of the producer's maximum owned inventory of eligible hogs and pigs, excluding breeding stock, on a date selected by the producer from April 16, 2020, through August 31, 2020, or 10,870 head multiplied by the number of payment limitations for the producer.
- the announced payment rate of \$23 per head (which has been adjusted for CFAP 1 coverage, as discussed above).

For broilers (independent growers only), using:

- 75 percent of 2019 non-contracted (independent) broilers that have left the farm for slaughter.
- The announced payment rate of \$1.01 per bird for broiler owners.

For eggs, using:

- 75 percent of 2019 non-contract egg production.
- the announced payment rates of
 - Shell eggs: \$0.05 per dozen eggs
 - Liquid eggs: \$0.04 per pound
 - Dried eggs: \$0.14 per pound
 - Frozen eggs: \$0.05 per pound

For lambs and sheep, using:

- the highest market inventory—excluding breeding stock—from April 16 to August 31, 2020.
- the announced payment rate of \$27 per head (which has been adjusted for CFAP 1 coverage, as discussed above).

For flat-rate crops, using:

- the grower's 2020 planted acreage.
- the \$15 per acre payment rate.

For specialty commodities, using:

- the grower's certified 2019 specialty commodity sales.
- the percentages for each individual sales gradation to obtain a summed payment for the operation (which has been adjusted for CFAP 1 coverage, as needed, as discussed above).

Respondent Reporting Cost Estimate

The value of the total annual burden on respondents is based on the estimated number of total annual responses, the estimated average time per response, and the respondent cost per hour.

Based on data from the Census of Agriculture, the estimated number of respondents is 800,000. The public reporting for this information collection is estimated to average approximately 0.7597 hour per response, including the time associated with the potential for producer spot check.

Type of Respondents: Producers or farmers.

Estimated Number of Respondents: 800,000.

Estimated Number of Responses Per Respondent: 1.416 (includes multiple forms).

Estimated Total Responses: 1,133,000.

Estimated Average Time Per Response: 0.7597 hours.
Estimated Total Time for Responses: 867,170 hours.

Respondent cost per hour was estimated using U.S. Bureau of Labor Statistics Occupational Employment and Wages¹² data—specifically, NAICs code 11-9013 for Farmers, Ranchers, and Other Agricultural Managers. The U.S. mean hourly wage for this category, as measured by the Bureau of Labor Statistics, is \$41.35. Fringe benefits for all private industry workers are an additional 29.9 percent,¹³ or \$12.36, resulting in a total of \$53.71 per hour.

The estimated cost is \$46.6 million (\$53.71 per hour times 867,170 hours).

Alternatives Considered

CFAP 1 payments, as of September 10, 2020, are \$9.7 billion, less than the May 14, 2020 cost-benefit assessment projection of \$16 billion. Payments to most CFAP 1 commodities have been lower than projected in the cost-benefit analysis (USDA CFAP dashboard). Fruit, vegetable, and nut crops, in particular, received a small share of expected payments as of early August, with several crops—including red raspberries, walnuts, grapefruit, carrots, sweet corn, oranges, and beans—receiving less than 3 percent of expected CFAP 1 payments for their specific commodity categories. There are numerous reasons, as discussed in a letter from the American Farm Bureau (and co-signed by 28 other groups), including ineligibility for CFAP 1 payments due to the marketing window for certain crops, payment limits for growers structured as corporations, and other factors. Because fruit, vegetable, and nut crops pose the most noteworthy sector realizing lower-than-expected payments, this sector is the focus of the alternatives analysis. Two alternatives were considered, in addition to the “proportion-of-sales” method chosen and discussed above:

- ***Labor facilitation approach***—This approach would value labor hours dedicated to fruit, vegetable, and nut crop production in 2019 in order to estimate Q2-Q4 costs in 2020 (and hence, payments). This methodology eliminates the commodity by commodity analysis used for CFAP 1 and would compensate these growers for major production costs that have increased due to changes allowing for social distancing and worker safety. However, crops that have highly mechanized production practices (such as nuts, potatoes, and carrots) may be treated inequitably, and it would burden growers with the calculation of work hours.

State block grant approach—This approach would award funding to states wishing to participate based on a fruit, vegetable, and nut block grant award formula. For example, each state could receive a percentage of the total authorized funding based on their percentage of cash receipts. Participating states would reach out to growers, accept applications, make eligibility decisions, and submit paperwork to FSA to process the payments. FSA would enter into a memorandum of understanding with each state

¹² U.S. Department of Commerce. Bureau of Labor Statistics. “Occupational Employment Statistics. Sector 11: Agriculture, Forestry, Fishing, and Hunting.” See https://www.bls.gov/oes/current/naics2_11.htm.

¹³ U.S. Department of Commerce. Bureau of Labor Statistics. “Employer Costs for Employee Compensation.” News release. March 19, 2020. <https://www.bls.gov/news.release/ecec.htm>.

covering program parameters. Several complications arise with such an approach, however. FSA would need to run a dual program for states that chose not to participate in order for growers in those states to receive payments. Not all states may have staffing and legislative authority, causing delay in payment output; further, administrative funds are not available for USDA to help states with program administration. Implementation timelines would vary by state, resulting in the timing of assistance to growers varying widely.

Summary of Expected Costs

CFAP is designed to help U.S. producers maintain their resilience given the price declines associated with COVID-19 and the need to adjust to new marketing patterns as the pandemic situation evolves. The net cost to the government of this rule, taking into account payment limitations, is \$13.21 billion. If this program is not implemented, producers will continue to suffer financial hardship resulting from unexpected loss of market demand and extended disruption of marketing arrangements. Until the market stabilizes, U.S. farmers and ranchers will be negatively impacted.

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