Methodology

The American Trends Panel (ATP), created by Pew Research Center, is a nationally representative panel of randomly selected U.S. adults. Panelists participate via self-administered web surveys. Panelists who do not have internet access at home are provided with a tablet and wireless internet connection. The panel is being managed by Ipsos.

Data in this report are drawn from the panel wave conducted Oct. 1 to Oct. 13, 2019. A total of 3,627 panelists responded out of 3,954 who were sampled, for a response rate of 91.7%. This does not include three panelists who were removed from the data due to extremely high rates of refusal

or straightlining. The cumulative response rate accounting for nonresponse to the recruitment surveys and attrition is 4.9%. The break-off rate among panelists who logged onto the survey and completed at least one item is 0.9%. The margin of sampling error for the full sample of 3,627 respondents is plus or minus 2.1 percentage points.

The sample consisted of all existing panelists who had

American Trends Panel recruitment surveys

| Recruitment dates | Mode | Invited | Joined | Active panelists remaining |
|---------------------------|-----------------------|---------|--------|----------------------------------|
| Jan. 23 to March 16, 2014 | Landline/ cell RDD | 9,809 | 5,338 | 2,291 |
| Aug. 27 to Oct. 4, 2015 | Landline/ cell RDD | 6,004 | 2,976 | 1,314 |
| April 25 to June 4, 2017 | Landline/ cell RDD | 3,905 | 1,628 | 663 |
| Aug. 8 to Oct. 31, 2018 | ABS/web | 9,396 | 8,778 | 6,320 |
| | Total | 29,114 | 18,720 | 10,588 |

Note: Approximately once per year, panelists who have not participated in multiple consecutive waves or who did not complete an annual profiling survey are removed from the panel. Panelists also become inactive if they ask to be removed from the panel.

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completed the annual profile survey as of Sept. 9, 2019. Panelists who had not yet completed the profile survey were ineligible. A subsample from the ATP was selected by grouping panelists into six strata so demographic groups that are underrepresented in the panel had a higher probability of selection than overrepresented groups:

- Stratum A consists of panelists that completed interviews for previous ATP Waves 17, 33, or 34. They were sampled at a rate of 100%.
- Stratum B consists of panelists who are non-internet users. They were sampled at a rate of 72%.
- Stratum C consists of panelists with a high school education or less. They were sampled at a rate of 64.7%.

- Stratum D consists of panelists that are Hispanic, unregistered to vote, or non-volunteers. They were sampled at a rate of 26.6%.
- Stratum E consists of panelists that are black or 18-34 years old. They were sampled at a rate of 12.8%.
- Stratum F consists of the remaining panelists. They were sampled at a rate of 9.6%.

The ATP was created in 2014, with the first cohort of panelists invited to join the panel at the end of a large, national, landline and cellphone random-digit-dial survey that was conducted in both English and Spanish. Two additional recruitments were conducted using the same method in 2015 and 2017, respectively. Across these three surveys, a total of 19,718 adults were invited to join the ATP, of whom 9,942 agreed to participate.

In August 2018, the ATP switched from telephone to addressbased recruitment. Invitations were sent to a random, addressbased sample (ABS) of households selected from the U.S. Postal Service's Delivery Sequence File. In each household, the adult with the next birthday was asked to go online to complete a survey, at the end of which they were invited to join the panel. For a random half-sample of invitations, households without internet access were instructed to return a postcard. These households were contacted by telephone and sent a tablet if they agreed to participate. A total of 9,396 were invited to join the panel, and 8,778 agreed to join the panel and completed an initial profile survey. Of the 18,720 individuals who have ever joined the ATP, 10,588 remained active panelists and continued to receive survey invitations at the time this survey was conducted.

The U.S. Postal Service's Delivery Sequence File has been estimated to cover as much as 98% of the population, although some studies suggest that the coverage could be in the low 90% range.¹

| Weighting dimensions Variable Benchmark source | | | | |
|--|---|--|--|--|
| Gender | 2017 American | | | |
| Age | Community Survey | | | |
| Education | | | | |
| Race/Hispanic origin | | | | |
| Hispanic nativity Home internet access | | | | |
| Region x Metropolitan status | 2018 CPS March Supplement | | | |
| Volunteerism | 2017 CPS Volunteering & Civic Life Supplement | | | |
| Voter registration | 2016 CPS Voting and Registration Supplement | | | |
| Party affiliation | Average of the three most recent Pew Research Center telephone surveys. | | | |

Note: Estimates from the ACS are based on non-institutionalized adults. Voter registration is calculated using procedures from Hur, Achen (2013) and rescaled to include the total US adult population.

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1 AAPOR Task Force on Address-based Sampling. 2016. "AAPOR Report: Address-based Sampling."

Weighting

Margins of error

The ATP data were weighted in a multistep process that begins with a base weight incorporating the respondents' original survey selection probability and the fact that in 2014 and 2017 some respondents were subsampled for invitation to the panel. The next step in the weighting uses an iterative technique that aligns the sample to population benchmarks on the dimensions listed in the accompanying table.

Sampling errors and test of statistical significance take into account the effect of weighting. Interviews are conducted in

| | Full sample Forr Margin of error in Unweighted percentage Unweighted sample size points sample size | | | Margin of error in percentage |
|--|---|--------------------|--------------|-------------------------------------|
| U.S. adults | 3,627 | +/- 2.1 | 1,811 | +/- 2.9 |
| Men Women | 1,663 1,962 | +/- 3.2 +/- 2.8 | 836 974 | +/- 4.4 +/- 3.9 |
| Among those who say GM foods for health than non-GM foods Worse Neither better nor worse | - | - | 913 773 | +/- 4.1 +/- 4.6 |
| Among those who have heard or read <u></u> about GM foods A lot A little | - | - | 556 1,068 | +/- 5.4 +/- 3.9 |
| Nothing at all | - | - | 184 | +/- 8.8 |
| Note: The margins of error are re | | | | e calculated |

by taking into account the average design effect for each subgroup. Source: Survey conducted Oct 1-13, 2019.

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both English and Spanish, but the American Trends Panel's Hispanic sample is predominantly U.S. born and English speaking.

In addition to sampling error, one should bear in mind that question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

The table shows the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey.

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Survey question wording and topline

2019 PEW RESEARCH CENTER'S AMERICAN TRENDS PANEL WAVE 55 FINAL TOPLINE OCTOBER 1-13, 2019 TOTAL N=3,627

OTHER QUESTIONS PREVIOUSLY RELEASED

ASK FORM 2 [N=1,811]:

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FUD32
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Genetically modified foods, sometimes called GMOs, come from a technique that adds genes from other organisms to change that food's genetic characteristics.

How much, if anything, have you heard or read about foods with genetically modified ingredients?

| | | Apr 23- | May 10- |
|-------------|----------------|---------|-------------|
| Oct 1-13 | | May 6 | June 6 |
| <u>2019</u> | | 2018 | <u>2016</u> |
| 29 | A lot | 29 | 29 |
| 59 | A little | 58 | 52 |
| 12 | Nothing at all | 13 | 19 |
| <1 | No answer | <1 | <1 |

ASK FORM 2 [N=1,811]:

FUD33A Do you think foods with genetically modified ingredients are generally... ASK IF NO ANSWER OR NOT SURE (FUD33A=8, 99) [N=462]:

FUD33B Even if you are not sure, which is closer to your views? Do you think foods with genetically modified ingredients are generally...

COMBINED RESPONSES FUD33A AND FUD33B:

| | | Apr 23- | May 10- |
|-------------|--|---------|---------|
| Oct 1-13 | | May 6 | June 6 |
| <u>2019</u> | | 2018 | 2016 |
| 7 | Better for your health than foods with no genetically modified ingredients | 5 | 10 |
| 51 | Worse for your health than foods with no genetically modified ingredients | 49 | 39 |
| 41 | Neither better nor worse for your health than foods with no genetically modified ingredients | 44 | 48 |
| 1 | No answer | 1 | 3 |

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ASK FORM 2 [N=1,811]:

FUD33A Do you think foods with genetically modified ingredients are generally...

| Oct 1-13 2019 | | Apr 23- May 6 2018 | May 10- June 6 2016 |
|------------------|--|--------------------------|---------------------------|
| 6 | Better for your health than foods with no genetically modified ingredients | 4 | 7 |
| 42 | Worse for your health than foods with no genetically modified ingredients | 40 | 33 |
| 27 | Neither better nor worse for your health than foods with no genetically modified ingredients | 29 | 32 |
| 25 | Not sure | 26 | 26 |
| <1 | No answer | 1 | 1 |

ASK IF NO ANSWER OR NOT SURE (FUD33A=8, 99) [N=462]:

FUD33B Even if you are not sure, which is closer to your views? Do you think foods with genetically modified ingredients are generally...

| | Apr 23- | May 10- |
|--|--|--|
| | May 6 | June 6 |
| | 2018 | 2016 |
| Better for your health than foods with no genetically modified ingredients | 4 | 11 |
| Worse for your health than foods with no genetically modified ingredients | 34 | 22 |
| Neither better nor worse for your health than foods with no genetically modified | 57 | 58 |
| No answer | 4 | 10 |
| | genetically modified ingredients Worse for your health than foods with no genetically modified ingredients Neither better nor worse for your health than foods with no genetically modified ingredients | May 6 2018 Better for your health than foods with no 4 genetically modified ingredients Worse for your health than foods with no 34 genetically modified ingredients Neither better nor worse for your health 57 than foods with no genetically modified ingredients |

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ASK ALL:

FUD37

How likely is it that genetically modified foods will... [RANDOMIZE ITEMS]

| | | Very likely | Fairly likely | <u>Not too</u> likely | <u>Not at all</u> likely | No Answer |
|----|--|----------------|------------------|--------------------------|-----------------------------|-------------|
| a. | Lead to more affordably-priced food Oct 1-13, 2019 Apr 23-May 6, 2018 May 10-June 6, 2016 | 24 25 20 | 38 38 36 | 27 30 31 | 9 6 11 | 2 1 2 |
| b. | Lead to health problems for the population as a whole Oct 1-13, 2019 Apr 23-May 6, 2018 May 10-June 6, 2016 | 25 24 16 | 33 35 33 | 33 32 39 | 8 7 10 | 3 1 2 |
| c. | Create problems for the environment Oct 1-13, 2019 Apr 23-May 6, 2018 May 10-June 6, 2016 | 20 21 18 | 33 35 31 | 36 36 39 | 8 6 9 | 3 1 2 |
| d. | Increase the global food supply Oct 1-13, 2019 Apr 23-May 6, 2018 May 10-June 6, 2016 | 31 31 25 | 43 45 44 | 19 19 23 | 5 4 6 | 2 1 3 |