

Default Question Block

YOUR VIEWS ABOUT GROWING PENNYCRESS

Dear Agricultural Producer:



A team of researchers at the University of Tennessee is conducting a survey to better understand your views about producing pennycress and other winter oilseed crops. Oilseeds from these crops are potential feedstock for producing sustainable aviation fuel (SAF).

You have been randomly selected to participate in this survey. The survey should take you about 20 minutes to complete. To provide an accurate picture of farmers' views, it is important for us to obtain as many completed responses from as many different farmers as possible. While you may not directly benefit from participating in this study, there may be benefits to society and research from your participation. Your response is very important; however, your participation is *completely voluntary* and refusal to participate will *involve no penalty or loss of benefits*. The risks related to your participation in this study are no greater than those you would encounter in daily activities. All individual responses will be held strictly confidential. Direct access to the data will be limited to researchers at the University of Tennessee. Only summaries of survey responses will be reported. Once the survey results are in and tabulated, a summary will be provided at: <http://arec.tennessee.edu>. This summary will also be shared with other farmers, farmer organizations, and assistance agencies.

You will have a chance to be randomly drawn for a \$75 Amazon gift card. Completion of this survey is not required to participate in the gift card drawing. If you would like to be included in the drawing, please fill out your email address on the next page. We will not use your email for any other purpose but to send you the gift card if your name is drawn.

If you have questions about your rights as a participant, you may contact the University of Tennessee Institutional Review Board (IRB) Compliance Officer at utkirb@utk.edu or (865) 974-7697. Completing the survey and clicking the next arrow to continue will be considered your consent to participate.

If you have any questions regarding the survey or the study, please feel free to contact us by email (provided below) or by phone at 865-974-7231. We truly appreciate you taking time out of your busy schedule to provide this information and to help out with the study.

Sincerely,

Research Team

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Completion of this survey is not required to participate in a gift card drawing. If you would like to be included in the drawing, please choose Yes and fill out your email address so that you can be contacted to receive a gift card if you are selected for it.

- Yes, I would like to be included in the drawing. My email address is
- No, I don't want to be included in the drawing.

CONSENT TO PARTICIPATE IN THE SURVEY

- Yes, I consent to participate in the survey
- No, I do not consent to participate in the survey

Fast Facts for Pennycress

About pennycress

- Native to Eurasia and in the Brassicaceae family
- Estimated average pennycress oilseed yield is 1600 pounds per acre (or 32 bushels per acre; 1 bushel = 50 pounds)
- Pennycress oilseed yields 30-40% oil content
- Oil from the seeds can be minimally processed into a high quality aviation/jet fuel

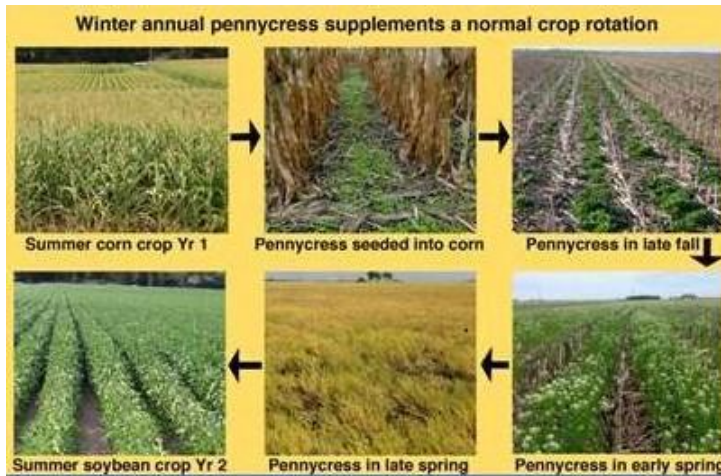
- Planting time – September to November (drilled or aerial applied)
- Harvest time – May to June (using a combine)



Source: Biodiesel Magazine

Potential revenue benefits

- Grown as an



Source: Oak Ridge National Lab

additional cash crop for extra revenue within an existing crop rotation.

Potential costs

- Estimated to be about \$109 per acre for producing pennycress including seed, fertilizer, chemical, maintenance, fuel, labor, and machinery
- Potentially could reduce yields of the cash crops planted immediately after pennycress if pennycress harvest delays planting

Soil and crop benefits

- Increase crop residue on soil surface
- Reduce soil erosion
- Increase soil organic matter/improve soil physical condition
- Improve moisture holding capacity of soil

- Reduce soil water evaporation
- Reduce weeds and pests and associated management cost

Potential societal benefits

- Feedstock for producing sustainable aviation fuel
- Reduce dependency of aviation industry on fossil-based fuel
- Decrease the risk of petroleum price volatility
- Provide habitat for pollinators and native wildlife on your farm
- Reduce greenhouse gas (GHG) emissions

How familiar were you with pennycress and other winter oilseed crops prior to this survey?

- Not at all familiar
- Somewhat familiar
- Very familiar

From which of the following sources have you obtained information on pennycress and other winter oilseed crops? (Select all that apply)

- Farmer or commodity magazines
- Other mass media (Internet, radio, TV, newspapers, magazines)
- Extension Service
- University research stations or other university sources
- Federal agricultural agency (for example, USDA, NRCS)
- State agricultural agency
- Farmer or commodity organizations
- Crop consultant
- Other farmers, friends, or neighbors
- Input suppliers
- Other (Please describe: _____) (Fill in the blank)

If producing pennycress and other winter oilseed crops is sufficiently profitable, would you be interested in planting it?

- Yes, I am interested in planting pennycress
- No. I am not interested, but I support planting pennycress as a feedstock for sustainable aviation fuel
- No. I am not interested, and I don't support planting pennycress as a feedstock for sustainable aviation fuel

Barriers/Opportunities

How important are the following to your decision to plant pennycress?

Importance Level

	Not at All	Not Very	Somewhat	Very	Extremely
Possible conflicts between planting and harvest period for pennycress and your other crops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern that pennycress could impact yields of other cash crops in the rotation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern about the market for pennycress as an energy crop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profitability of growing pennycress crops compared with other farming alternatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Possibility that you will cease farming in the next few years due to retirement or other reasons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perceptions that pennycress is a weed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your knowledge about growing pennycress compared with your knowledge about growing other crops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern about having the financial resources and equipment needed to produce pennycress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other, please describe:

Not at all
 Not Very
 Somewhat
 Very
 Extremely

Please read through the following potential opportunities and choose how important each might be in influencing your decision of whether to grow pennycress

	Importance Level				
	Not at All	Not Very	Somewhat	Very	Extremely
Additional source of farm income	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to diversify crop species grown on your farm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Create jobs in your community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduce erosion on your farm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide habitat for pollinators and native wildlife on your farm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contribute to national energy security by producing pennycress for sustainable aviation fuel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help the environment by producing pennycress for sustainable aviation fuel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other, please describe:

Not at All
 Not Very
 Somewhat
 Very
 Extremely

Farm Characteristics and Farmer Demographics

Which state and county is most of your farm acreage located?

- Alabama, please fill in the county name
- Arkansas, please fill in the county name
- Illinois, please fill in the county name
- Kentucky, please fill in the county name
- Missouri, please fill in the county name

Mississippi, please fill in the county name

Tennessee, please fill in the county name

About Your Farming Operation and You

How many acres of each cash crop did you plant in 2019? (Fill in the blanks)

Corn	<input type="text" value="0"/>
Cotton	<input type="text" value="0"/>
Soybean	<input type="text" value="0"/>
Other	<input type="text" value="0"/>
Total	<input type="text" value="0"/>

How much of the cash crop acres that you farmed in 2019 were (Fill in the blanks):

Owned Acres

Acres Rented from Others

Please indicate the rent you pay per acre and the number of years you have rented if you are willing to (Fill in the blanks):

	Rent Farm
Average rent paid, \$/acre	<input type="text"/>
Average number of years rented	<input type="text"/>
I prefer not to answer (fill n/a)	<input type="text"/>

Do you regularly rotate two or more cash crops on the same field in a planned sequence?

Yes

No

Do you rotate soybeans with corn or cotton?

- Yes
 No

Do you currently plant winter cover crops that are not harvested?

- Yes
 No

How many acres of the following single or mixed species crops that are not harvested do you currently plant on your farm?

Single species legume only on a field (e.g., Austrian peas, crimson clover, hairy vetch, or other)

Single species non-legume only on a field (e.g., radish, turnips, winter rye, winter wheat, or other)

Mixture of species on a field (e.g., legume with non-legume species, soil health mix, or other)

Do you currently plant winter cover crops that are harvested for forage or other on-farm use?

- Yes
 No

How many acres of the following cover crops that are harvested for forage or on-farm use do you currently plant on your farm?

	Acres
Single species legume only on a field (e.g., Austrian peas, crimson clover, hairy vetch, or other)	<input type="text"/>
Single species non-legume only on a field (e.g., radish, turnips, winter rye, winter wheat, or other)	<input type="text"/>
Mixture of species on a field (e.g., legume with non-legume species, soil health mix, or other)	<input type="text"/>

Have you received government cost-share payments to plant winter cover crops that are not harvested?

- Yes
- No

Do you currently double crop where both crops are harvested for grain or seed?

- Yes
- No

Which double crops do you currently plant? (Select all that apply)

- Soybean-winter barley
- Soybean-winter canola
- Soybean-winter oats
- Soybean-winter wheat
- Other, please indicate the double crop(s)

How many acres of each tillage method do you practice on your farm?

	Acres
Conventional Tillage (e.g., moldboard plowing to bury crop residue on the field)	<input type="text"/>
Strip-tillage (tilling a narrow strip, leaving soil and crop residue between the rows undisturbed)	<input type="text"/>
Other conservation tillage methods (uses full width tillage but leaves at least 30 percent of the soil surface covered with crop residue at planting time)	<input type="text"/>
No-tillage (leaves soil and crop residue undisturbed from last year's harvest and requires planting directly through the crop residue)	<input type="text"/>

Have you received government cost-share payments for no-tillage planting?

- Yes
- No

Do you irrigate your crops?

- Yes
- No

How many crop acres do you irrigate on your farm?

Which of the following best describes your role in deciding which crops to grow on your farm?

- I make the decision on my own
- I share the decision making with my partners or family
- Someone else makes this decision

In 2019, your primary farming operation's legal status for tax purposes? (Select only one)

- Family or individual operation (Excluding partnerships and corporations)
- Legal partnership operation (Including family partnerships)
- Corporation
- Other (Including estates, trusts, cooperatives, grazing associations, etc.)

Which of the following describes your farming operation's net income from farming in 2018 (before taxes)?

- Less than \$1,000
- \$1,000 - \$2,499
- \$2,500 - \$4,999
- \$5,000 - \$9,999
- \$10,000 - \$24,999
- \$25,000 - \$49,999
- \$50,000 - \$99,999
- \$100,000 - \$249,999
- \$250,000 - \$499,999
- \$500,000 - \$999,999
- \$1,000,000 - \$2,499,999
- \$2,500,000 - \$4,999,999
- \$5,000,000 or more
- Prefer not to disclose

For every \$100 of farm assets your farming operation had in 2018, how many dollars were financed with debt?

- \$0 - \$0.99
- \$1 - \$4.99
- \$5 - \$9.99
- \$10 - \$14.99
- \$15 - \$19.99
- \$20 - \$39.99
- \$40 - \$69.99
- greater than \$70
- Prefer not to disclose

What percentage of your household's 2018 net income from all sources (on and off-farm sources) came from off-farm sources?

- Less than 10%
- 10-19.99%
- 20-29.99%
- 30-39.99%
- 40-49.99%
- 50-59.99%
- 60-69.99%
- 70-79.99%
- 80-89.99%
- 90% or greater
- Prefer not to disclose

Have you ever produced any commodity under a production contract?

- Yes
- No

Fill in the blanks.

Your age in years

Your years of
experience farming

Number of years

How many extension workshops or experiment station field days did you attend in 2019? (Fill in the blank)

Number

Extension workshops or
experiment station field
days you attended in
2019

What is the highest education level you have attained?

- Elementary/Middle School
- Some High School
- High School
- Some College or Technical School
- Bachelor's Degree
- Post graduate or Professional Degree

Please choose the answers that reflect your level of agreement with each of the following statements.

	Strongly Disagree	Disagree	No opinion	Agree	Strongly agree
I am the kind of farmer who is more willing to take financial risks than others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am reluctant about adopting new production methods or crops until I see them working for others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more concerned about a large loss to my farming operation than about missing a substantial gain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\$0.05 Block

Assume you are responsible for pennycress planting and harvesting costs and all inputs.

Pennycress Production Information

Projected Yield - Average 1600 lbs/acre ranging from 800 to 2400 lbs/acre

Estimated cost - about \$109/acre

Would you be willing to grow pennycress at a price of \$0.05/lb if picked up at your farm at the time of harvest?

Yes

No

How many acres of pennycress would you be willing to plant at a price of \$0.05/lb?

You indicated you would not produce at \$0.05/lb. At what price would you be willing to plant?

At this price, how many acres would you plant?

\$0.10 Price Block

Assume you are responsible for pennycress planting and harvesting costs and all inputs.

Pennycress Production Information

Projected Yield - Average 1600 lbs/acre ranging from 800 to 2400 lbs/acre

Estimated cost - about \$109/acre

Would you be willing to grow pennycress at a price of \$0.10/lb if picked up at your farm at the time of harvest?

Yes

No

How many acres of pennycress would you be willing to plant at a price of \$0.10/lb?

You indicated you would not produce at \$0.10/lb. At what price would you be willing to plant?

At this price, how many acres would you plant?

\$0.15 Price Block

Assume you are responsible for pennycress planting and harvesting costs and all inputs.

Pennycress Production Information

Projected Yield - Average 1600 lbs/acre ranging from 800 to 2400 lbs/acre

Estimated cost - about \$109/acre

Would you be willing to grow pennycress at a price of \$0.15/lb if picked up at your farm at the time of harvest?

Yes

No

How many acres of pennycress would you be willing to plant at a price of \$0.15/lb?

You indicated you would not produce at \$0.15/lb. At what price would you be willing to plant?

At this price, how many acres would you plant?

\$0.20 Price Block

Assume you are responsible for pennycress planting and harvesting costs and all inputs.

Pennycress Production Information

Projected Yield - Average 1600 lbs/acre ranging from 800 to 2400 lbs/acre

Estimated cost - about \$109/acre

Would you be willing to grow pennycress at a price of \$0.20/lb if picked up at your farm at the time of harvest?

Yes

No

How many acres of pennycress would you be willing to plant at a price of \$0.20/lb?

You indicated you would not produce at \$0.20/lb. At what price would you be willing to plant?

At this price, how many acres would you plant?

\$0.25 Price Block

Assume you are responsible for pennycress planting and harvesting costs and all inputs.

Pennycress Production Information

Projected Yield - Average 1600 lbs/acre ranging from 800 to 2400 lbs/acre

Estimated cost - about \$109/acre

Would you be willing to grow pennycress at a price of \$0.25/lb if picked up at your farm at the time of harvest?

- Yes
- No

How many acres of pennycress would you be willing to plant at a price of \$0.25/lb?

You indicated you would not produce at \$0.25/lb. At what price would you be willing to plant?

At this price, how many acres would you plant?

Details if Grow

PENNYCRESS STORAGE AND CONTRACTING

Do you have an existing bin where the pennycress could be stored?

- Yes
- No, but I would be willing to construct one
- No, and I am not willing to construct one

If you were to grow pennycress, would you be willing to store it on your farm after harvest if you were reasonably compensated for the costs?

- Yes
- No

For a pennycress crop,

How many days would you be willing to store?

For that amount of days, what price would you require? (\$/lb)

Would you prefer to grow pennycress under a production contract?

Yes

No

If you produced pennycress under a production contract, what length of contract would you prefer? (Indicate the number of years)

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