

Attachment 2:

Idaho's Seed Industry

IFOSA

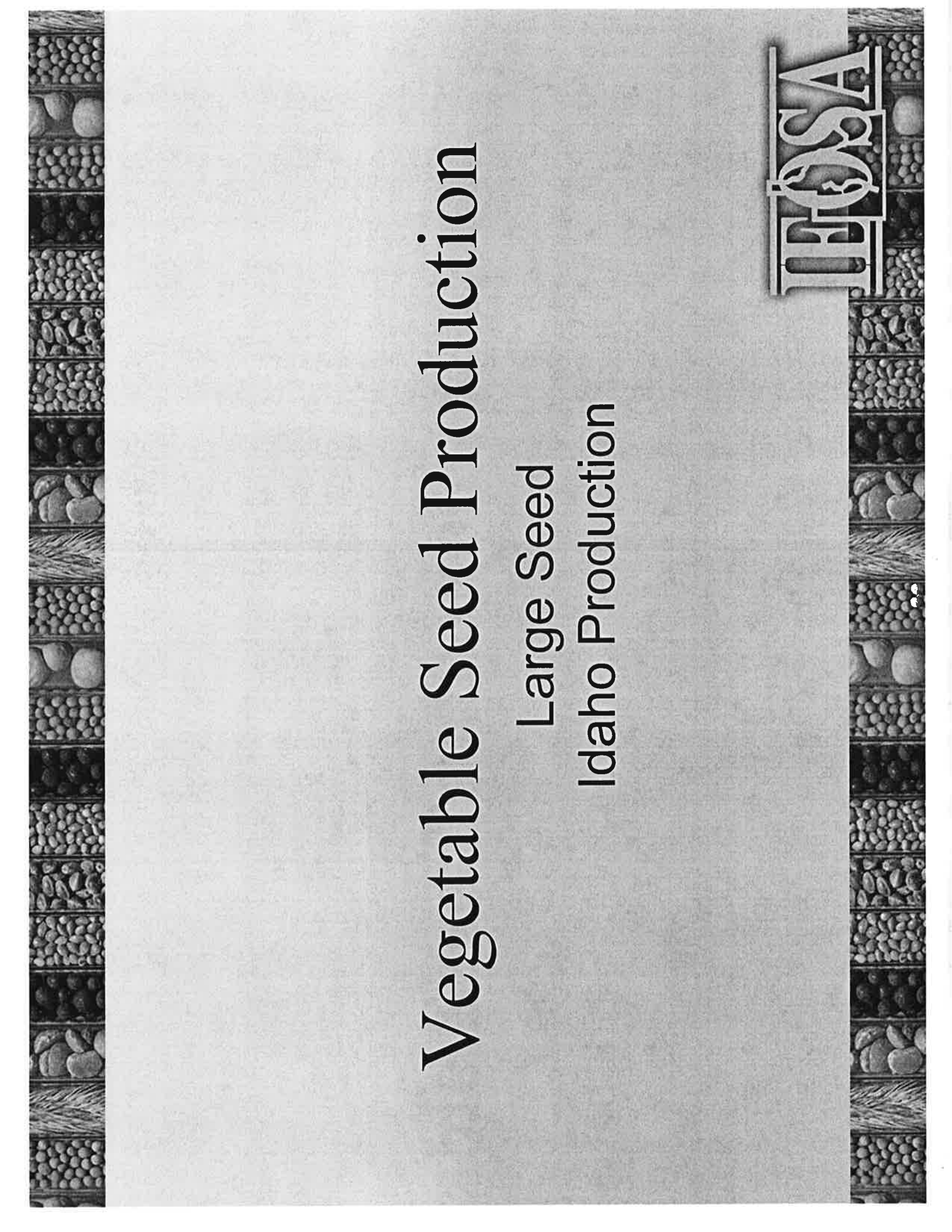
Seed Industry Economics

IFQSA

IDAHO'S SEED INDUSTRY SHIPS TO EVERY CONTINENT*

*(EXCEPT ANTARCTICA)





Vegetable Seed Production

Large Seed
Idaho Production

IFOSEA



Sweet Corn Seed

Why the Treasure Valley of Idaho?

- High desert climate – low humidity and high heat
 - Conducive to more heat units for less frost damage, less bacterial and fungal disease
- High percentage of furrow irrigation – better for pollination than overhead irrigation
- Wide range of field sizes for better placement of varieties for different market segments
- Excellent grower base, reliable productions

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Sweet Corn Seed

Current Production

- Approximately 70% of the Global Sweet Corn Seed Production in the Treasure Valley of Idaho
- More than 10 companies in the region
- Estimated total of 6,000 acres of production
- Estimated total of 8.5 million pounds of seed
- Production value approximately \$18 million

Future Production

- Margins excellent (many over 50%), considered a growth crop in the seed industry
- Trend is for increased production



TOSA



THE SA



Small Seeded Vegetables

Production acreage in Idaho

Carrot Seed: Both hybrid and open pollinated

- 2000-2500 acres annually

Onion Seed: Both hybrid and open pollinated

- 1200-1500 acres annually

Radish Seed:

- 1200-1500 acres annually

Turnip Seed:

- 300-500 acres annually

Lettuce Seed:

- 500-700 acres annually

Misc. Brassica Seed (mustard, collard, kale, rutabaga):

- 300-400 acres annually



IDSA



Small Seeded Vegetables

Key Factors that make Idaho a Seed Production Area for the World

- The Southern Idaho climate provides for an optimal growing region for seed production. (optimal temperatures during pollinating period, disease pressures are low due to the dry climate)
- Established irrigation systems in place for watering of production fields.

Both of these key factors allow for high quality seed to continue to be produced in Idaho. The unique production area that Idaho offers makes it a sought after production area for companies globally.

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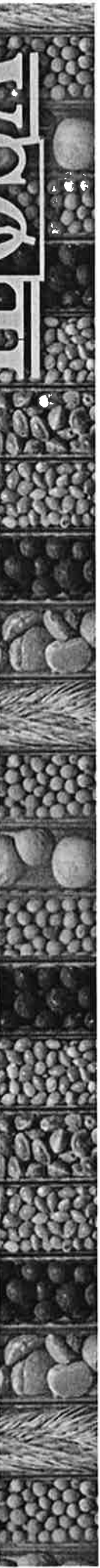
Small Seeded Vegetables

Future Challenges

- Urban Sprawl in production areas
- Increasing World Population
- EPA pressure on canceling chemical label registrations
- Challenges brought against established Irrigation Water Rights
- Pollinator availability

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Idaho Alfalfa Seed & Hay



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Idaho Alfalfa Seed Production Acres & Value

- Approximately 17,500 acres of ID seed production in 2016
- Average clean yield is 900 lbs / acre
- Average value / pound is \$2.40 / lb
- Total seed production is conservatively estimated to be around 15,750,000 pounds of alfalfa seed
- Total value of this seed production to the growers is conservatively estimated to be around \$37,800,000.00

The logo for IFOSA, featuring the letters 'I', 'F', 'O', 'S', and 'A' in a stylized, serif font. The letters are white with a black outline and are set against a dark background. The 'O' is particularly large and has a decorative flourish. The logo is positioned in the bottom right corner of the slide, above a decorative border of various seeds and grains.

USDA NASS Data - Idaho

- The USDA Estimates total Idaho Alfalfa Acres to be right around 1 million acres of which around 225,000 acres or 4.5 million pounds of seed are planted on a yearly basis.
- This produces approximately 4.5 million tons of hay / year
- The value of this hay sold is approximately \$120 / ton for a total of \$540,000,000
 - Most of this hay is fed to Idaho Dairy's, which constitute Idaho's largest dollar value in agriculture
 - Beef feeder operations take up another portion of the hay
 - Exporters, both domestically and internationally purchase much of the remainder of the hay

The logo for IDOSA (Idaho Dairy and Organic Seed Association) is displayed in a stylized, serif font. The letters are white with a dark outline, set against a background of a vertical strip of various agricultural products like grains and seeds. The logo is positioned in the bottom right corner of the slide.



Idaho Seed Production

Since the seed planted in Idaho on a yearly basis for hay utilizes only around $\frac{1}{4}$ of the seed produced here, the remainder of the seed is shipped across the United States (every state plants alfalfa) or goes abroad to many of the larger alfalfa production countries such as:

- Argentina / Chile – which is the worlds second largest alfalfa hay production area behind the U.S.
- Australia
- Canada
- China
- Mexico
- The other countries are minor but would include northern African countries, Middle Eastern countries, Spain, France, Italy, Greece, Turkey etc...

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Issues Facing Idaho Alfalfa Seed Production

- EPA regulation of chemistries that help increase seed yields
 - General competitive issues (Strong USD)
- Urban encroachment
- Bee prices

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THE





Dry Edible Beans in Idaho

2015 State Agriculture Overview

- 119,000 acres harvested
- 214.1 million pounds of production
- \$70 million sales
- 35,440 Acres of Dry Bean Seed inspected and accepted by Idaho Crop Improvement in 2015

2016 Idaho Annual Statistical Bulletin, USDA National Agricultural Statistics Service Northwest Regional Field Office

2015 ICIA Annual Report



ICISA





Dry Bean Seed Companies in Idaho

ADM

Kelley Bean Co.

Basin Seed

Kimberly Seed Intl', Inc.

Big D Ranch

Monsanto-Seminis

C & F Foods

Rangen, Inc.

Fredrick's Bean & Grain

Soranco Bean Products, Inc.

GenTec Inc.

Treasure Valley Seed Co.

Idaho Seed Bean Company

Trinidad Benham Corp.

J.P. Wilson Co.



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Del Monte Foods, Inc.

Nourishing Families. Enriching Lives. Every Day.®

Pea Seed Production in Idaho

Aaron Phillips

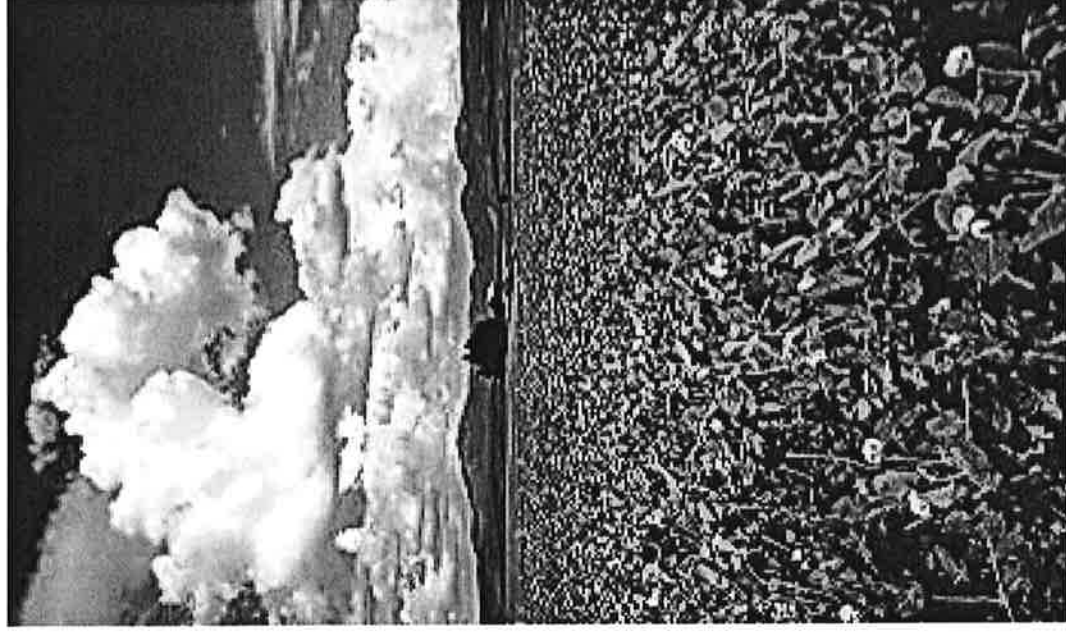
Peas - Ideal for Idaho

Peas are a cool season annual crop. They are well adapted to the various geographies and microclimates of Idaho.

Annual herbaceous plants. Stems grow to a length of 2 to 4 ft. At maturity, the plant is a prostrate vine.

A cool growing season is necessary for optimum field pea production (a mean temperature of 55° to 65°F).

Hot weather during flowering causes the flowers to blast which results in reduced seed set. Field pea seedlings can withstand considerable frost exposure without damage.



Benefits of Peas

- Peas and other legumes are desirable in crop rotations because they:
 - Break up disease and pest cycles
 - Provide nitrogen
 - Improve soil microbe diversity and activity
 - Improve soil aggregation – important in a state producing potatoes
 - Conserve soil water
 - Maybe most importantly – provide economic diversity

Pea Production Areas within Idaho



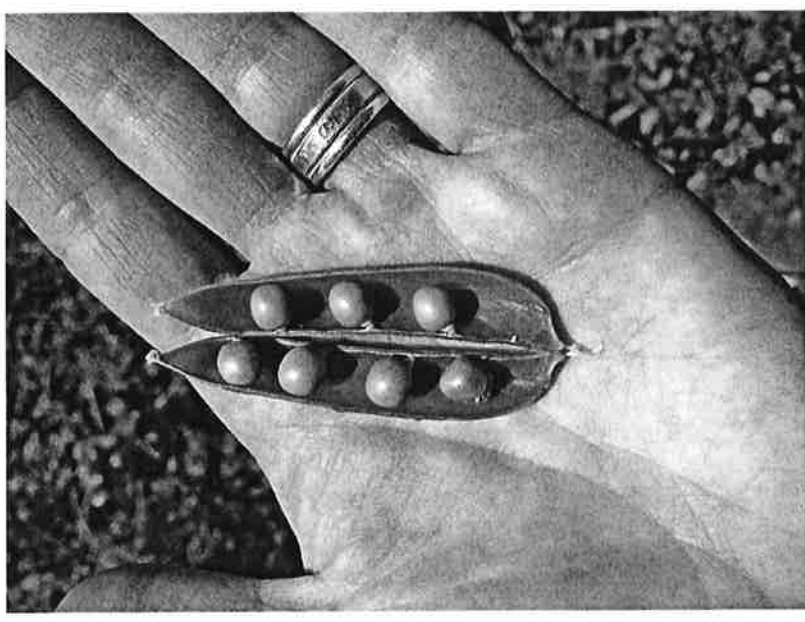
Four growing regions within the state:

Palouse

Treasure Valley

Magic Valley

Eastern Idaho



Importance of Peas to Idaho

According to “Agriculture Facts – 2016” published by Idaho Department of Agriculture:

- State ranks #1 in U.S. production of Austrian Winter Peas (51% of national supply)
- #2 in Wrinkled Seed Peas, accounting for 40% of U.S. production
- #4 in Dry Edible Peas (4% of US production)

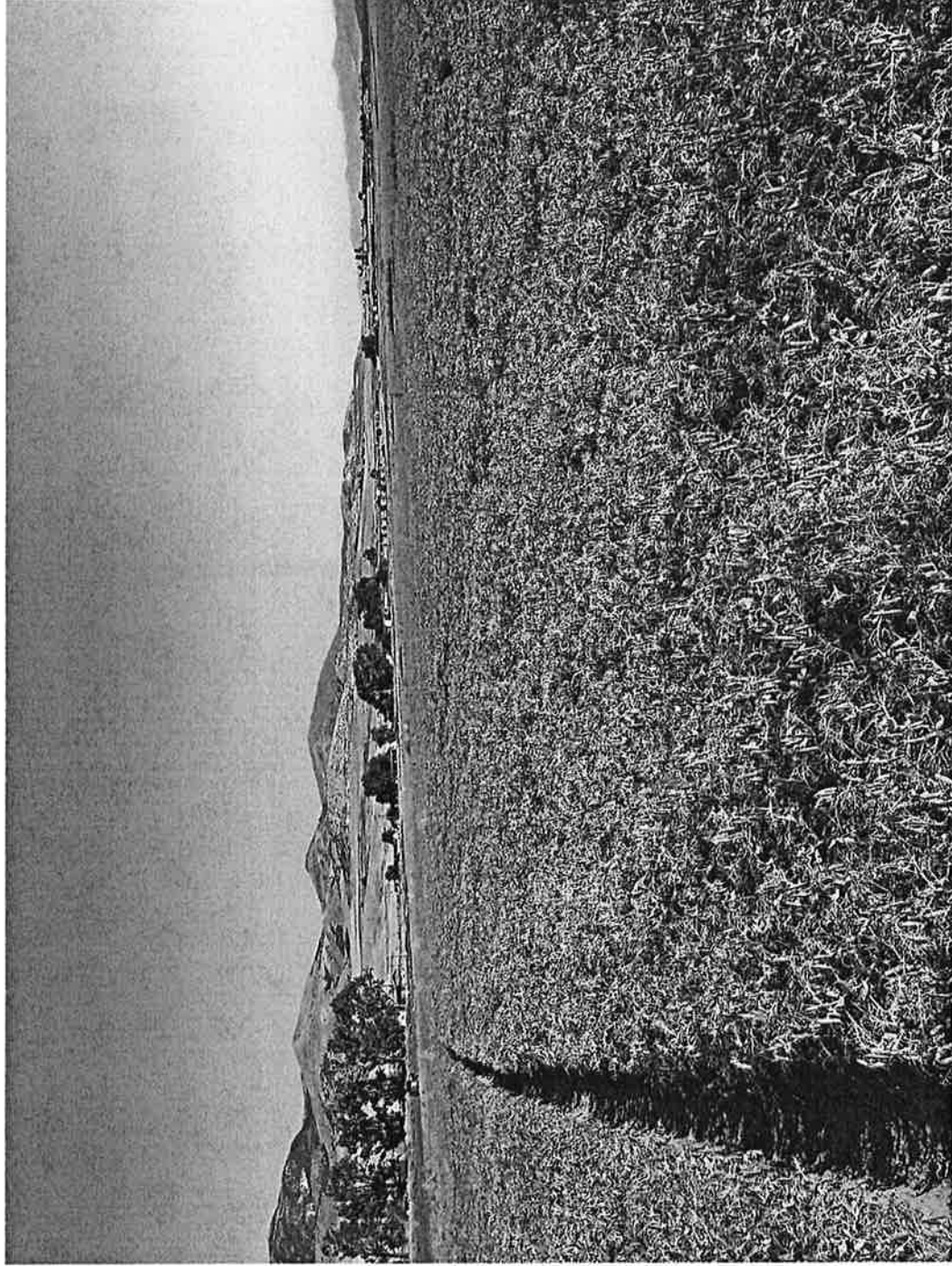
Region	Acres grown	Average yield	Return to grower/ac
Palouse	?	1,250	\$240
Treasure Valley	?	3,000	\$820
Magic Valley	2,300	2,500	\$600 - 800
Eastern Idaho	1,400	2,350	\$700



Wrinkled Pea Production (in CWT)



Prepped for Harvest





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Cover Crop Seed Production

Cover Crop - a crop grown for the protection and enrichment of the soil.

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Cover Crop Benefits

Nutrient Cycling

Weed Suppression

Compaction Reduction

Increased Organic Matter

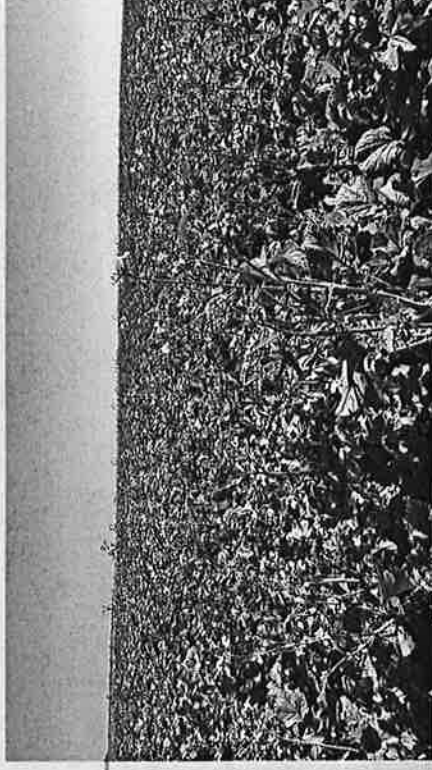
Erosion Control

Improved Water Infiltration & Penetration

Pollinator Attractant

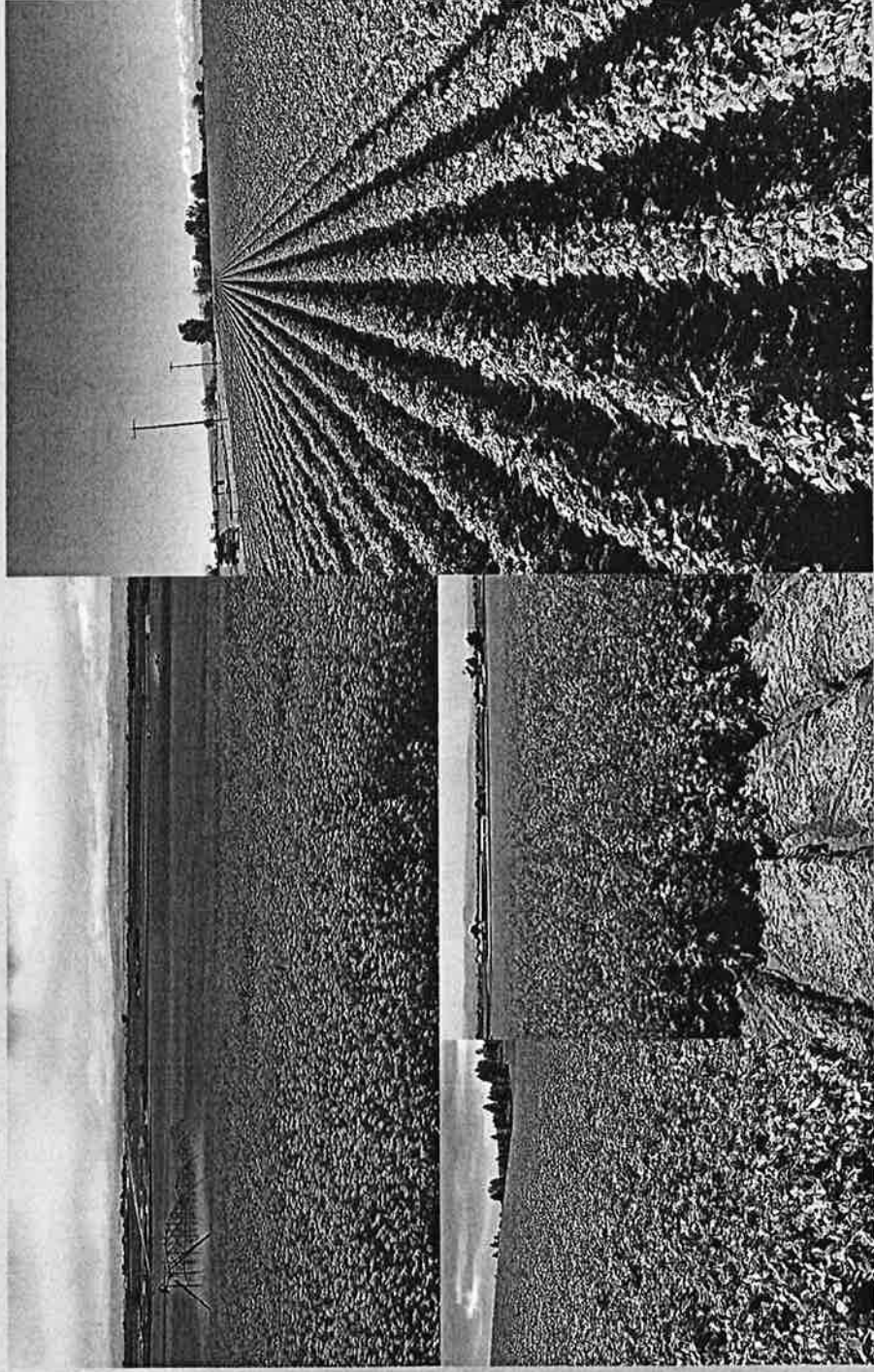
Nematode Control

Bio-Fumigation



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Cover Crop Seed Production In Idaho



- Turnips
- Rutabaga
- Collards
- Kale
- Oats
- Triticale
- Clover
- Teff
- Rapeseed
- Radish
- Mustard
- Peas
- Buckwheat

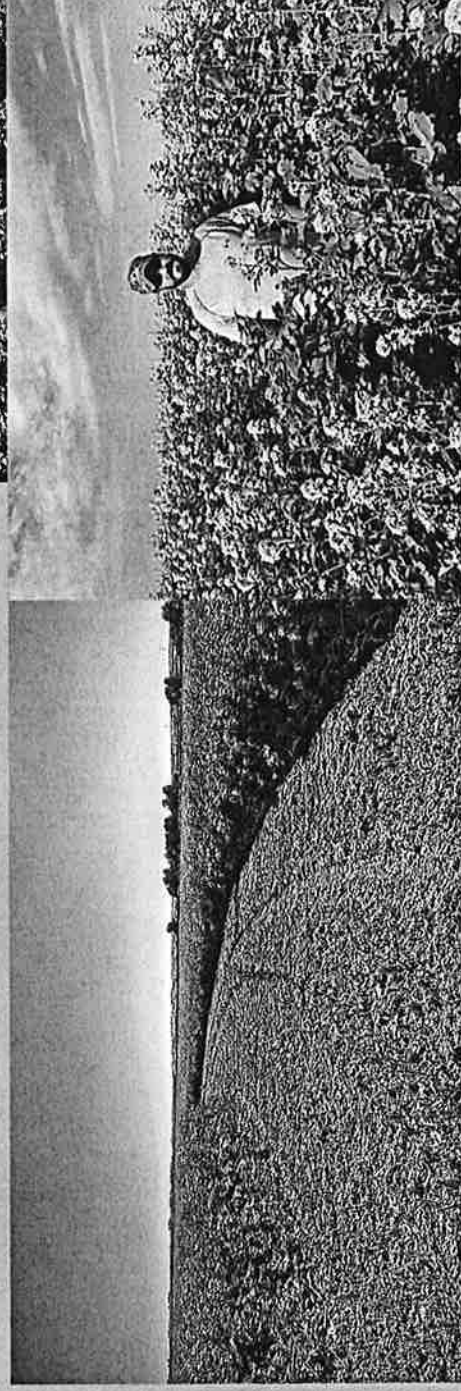
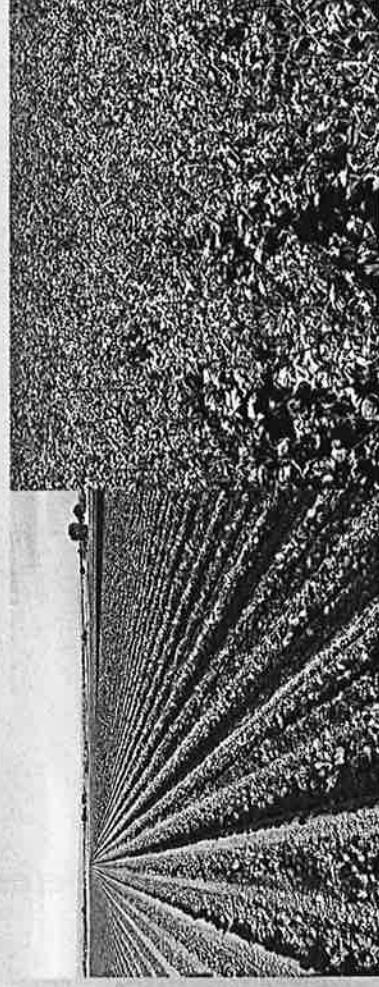
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Nematode Resistant Cover Crop Seed Production – New to Idaho in 2016

Radish and Mustard resistant to Columbia Root Knot and
Sugar Beet Cyst Nematodes

Trap Crop vs. Bio-Fumigant

From Europe to Idaho



IFOSA

Idaho's Seed Industry

The logo for the Idaho Seed Association (ISA) is positioned in the top right corner. It features the letters 'ISA' in a large, bold, serif font. The letter 'I' is the tallest, 'S' is the middle height, and 'A' is the shortest. The letters are white with a dark outline. The background of the logo is a dark, textured area that appears to be a close-up of various seeds and grains, arranged in a grid-like pattern. The overall design is professional and agricultural in theme.

ISA