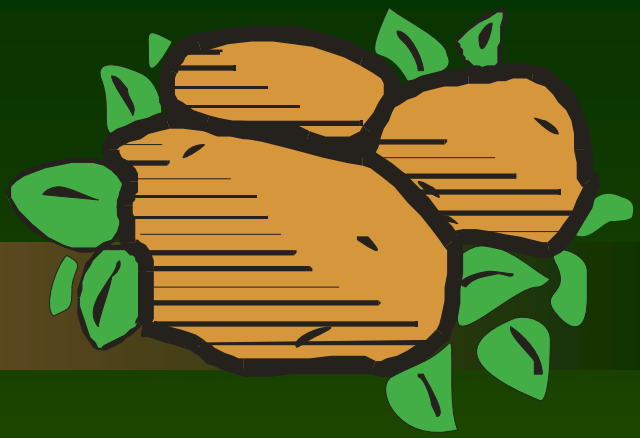
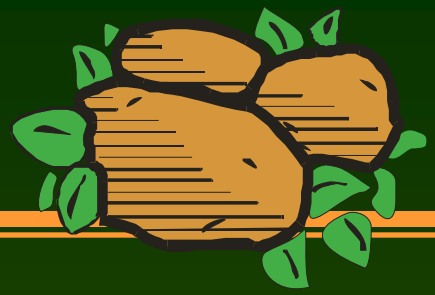


Healthy Grown Vegetables: Where Are We Going?

Deana Sexson – UW – Madison

NPM Program, Department of Horticulture

WWF/WPVGA/UW Collaboration- History



Ecosystem

Public Policy

WWF/WPVGA/UW Collaboration WI Eco-potato Project

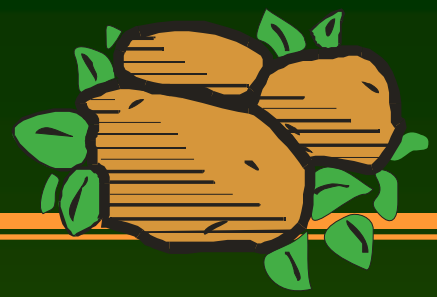
Measurement

BioIPM and Reduced Toxicity

Market Based Incentives

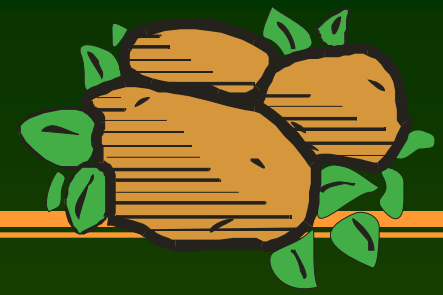
Growers Setting The Stage To Do The Right Thing!

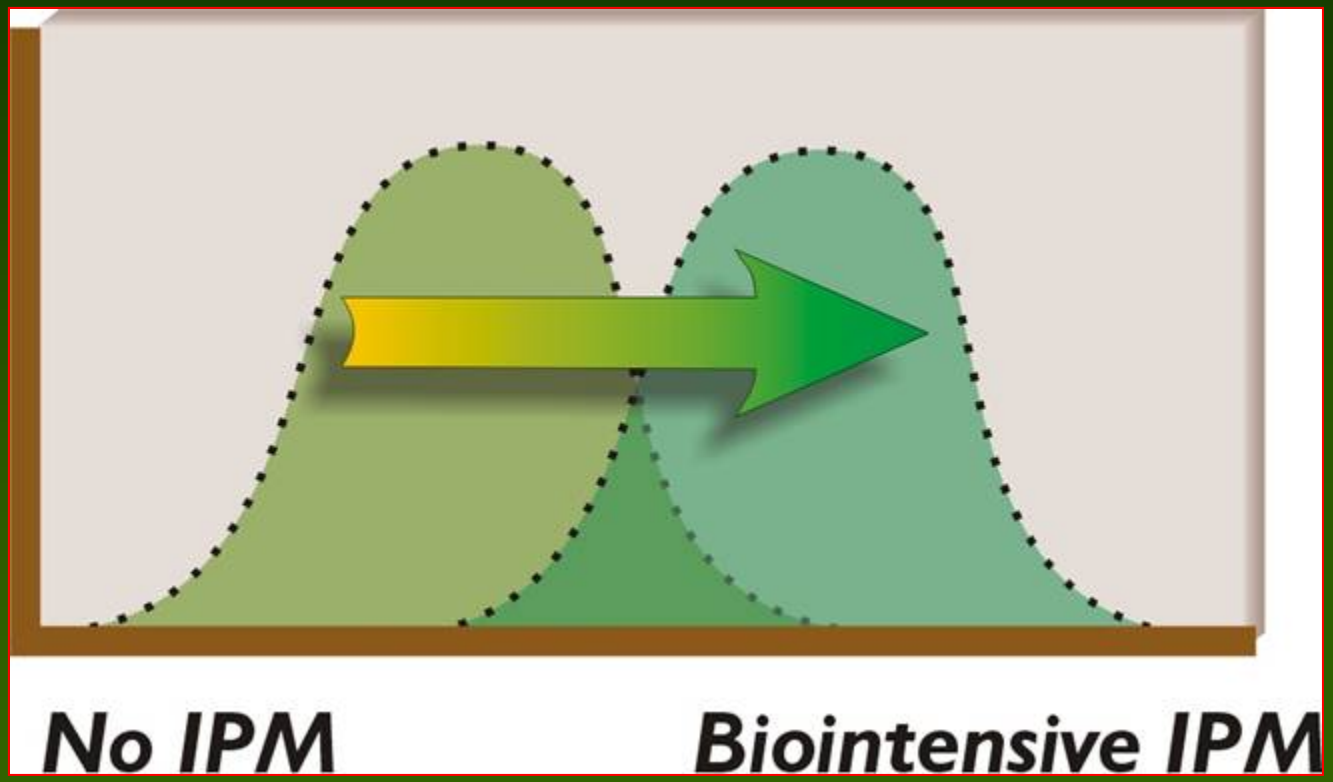
WWF/WPVGA/UW Collaboration - History



- Reduce pesticide use, reliance and risks
- Increase adoption of biointensive IPM
- Enhance wildlife and ecosystem conservation and protect biodiversity
- Raise consumer demand for ecologically produced potatoes
- Develop and field test measurement methods

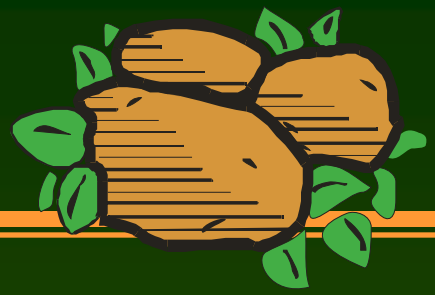
Developing Research Based Production Standards





Accelerating BioIPM Adoption

Developing Research Based Production Standards



Certification

Standards

Label

Chain of Custody

WWF

Marketing

Eco-label Standards

WWF/WPVGA/UW Collaboration - Ecological Potato Standards (Draft 12/15/00)

Farm: _____

Variety: _____

Acres: _____

Please answer the following **for the field which you are certifying**.

Variety Designation:
Short season (SS) = less than 90 days from emergence to final vinekill
Long season (LS) = more than 90 days from emergence to final vinekill

Scouting Section

1A Whose scouting data did you use to make management decisions on this field?
(check only one)

- ☐ Farm Dealer/Co-op = *1 point*
- ☐ Independent Crop Consultant = *5 points*
- ☐ IPM Trained Farm Employee = *4 points*
- ☐ Farm Owner/Manager = *4 points*
- ☐ Farm Employee = *2 points*

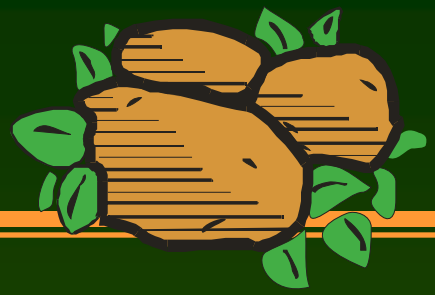
☐ point total for question 1A *possible range 1-5*

1B **Bonus:** If additional scouting data was taken, who provided this data?
(check only one)

- ☐ Farm Dealer/Co-op = *1 point*
- ☐ Independent Crop Consultant = *5 points*
- ☐ IPM Trained Farm Employee = *4 points*
- ☐ Farm Owner/Manager = *4 points*
- ☐ Farm Employee = *2 points*
- ☐ No One = 0 *points*

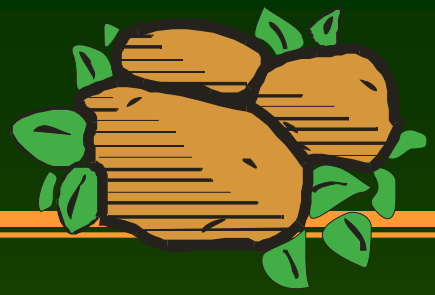
☐ point total for **bonus** question IB *possible range 0 - 5*

Eco-label Standards



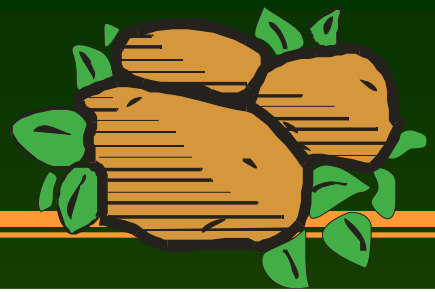
- Nine Categories Include
  - Scouting
  - Information Gathering
  - General Pest Management Decisions
  - Field Management Decisions
  - Weed Management
  - Insect Management
  - Disease Management
  - Soil and Water Quality
  - Storage Management

Eco-label Standards



- **Multi-attribute Toxicity Units**
  - **Indefinite Amount of Points**
  - **Determined by 4 factors**
    - Acute Mammalian Toxicity
    - Chronic Mammalian Toxicity
    - EcoToxicity Factor (for example avian and fish)
    - BioIPM Toxicity Factor (resistance, impact on beneficials, impact on bees)

Eco-label Standards



Pesticide Toxicity

To determine the toxicity units for the season, total the pounds of active ingredient for each compound and multiply by the toxicity value for that compound. Total toxicity units for all compounds sprayed during the growing season.

Maximum toxicity units:

SS = 800 toxicity units per acre for the season.

LS = 1200 toxicity units per acre for the season.

Toxicity Unit Exceptions for Late Blight

If 18 severity values are reached by June 1st, 400 more toxicity units may be used for **fungicides only.**
If 18 severity values are reached by June 15th, 200 more toxicity units may be used for **fungicides only.**

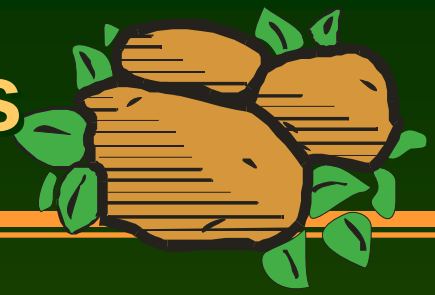
The following conditions apply only when late blight is found in the vicinity (within 25 miles of field)

- If there are 18 severity values and late blight is found in the vicinity in June, than add 400 toxicity units
- If there are 18 severity values and late blight is found in the vicinity after June 30th but before July 15th, than add 300 toxicity units
- If there are 18 severity values and late blight is found in the vicinity after July 15th but before August 1st, than add 200 toxicity units
- If there are 18 severity values and late blight is found in the vicinity in August, than add 100 toxicity units

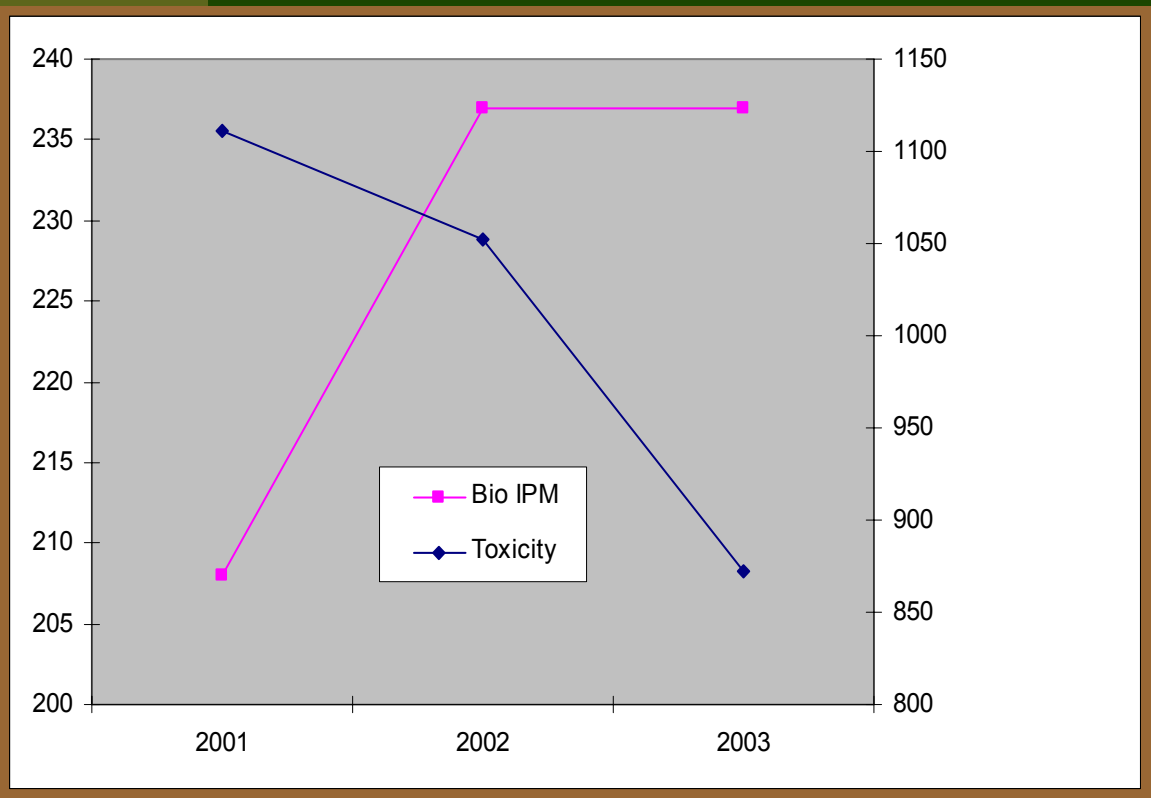
Eco-label Standards

Aldicarb	Temik®		
Azinphos-methy	Guthion®	307	185
Btt	Novodor®	11	11
Cyfluthrin	Baythroid®	452	14
Carbaryl	Sevin®		
Carbofuran	Furadan®	401	200
Diazinon	Diazanon®	343	103
Dimethoate	Dimethoate/Cygon®	355	143
Disulfoton	Disyston®	541	271
Endosulfan	Thiodan®, Phaser®	271	217
Esfenvalerate	Asana®	482	24
Ethoprop	Mocap®	339	1017
Imidacloprid	Admire®	159	32
Malathion	Cythion®	132	93
Methamidophos	Monitor®	339	338
Methoxomyl	Lannate®		
Oxamyl	Vydate®	440	132
Permethrin	Ambush/Pounce®	288	43
Phorate	Thimet/Phorate®	625	1563
Phosmet	Imidan®	133	134
Piperonyl butoxide	Incite®	59	
Pymetrozine	Fulfill®	123	21
Spinosad	Spinosad®	172	17

Four Year Certification Stats



- ~4000 Acres Certified Each Year



Since 1998 Baseline:

Toxicity Average- 2048

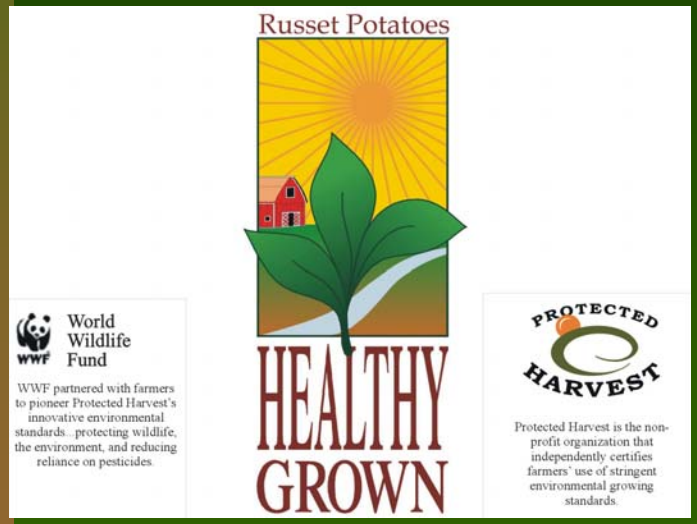
57% reduction

BioIPM –
4 low, 1 med, 8 high
ALL High

WI industry average- 2400

64% reduction

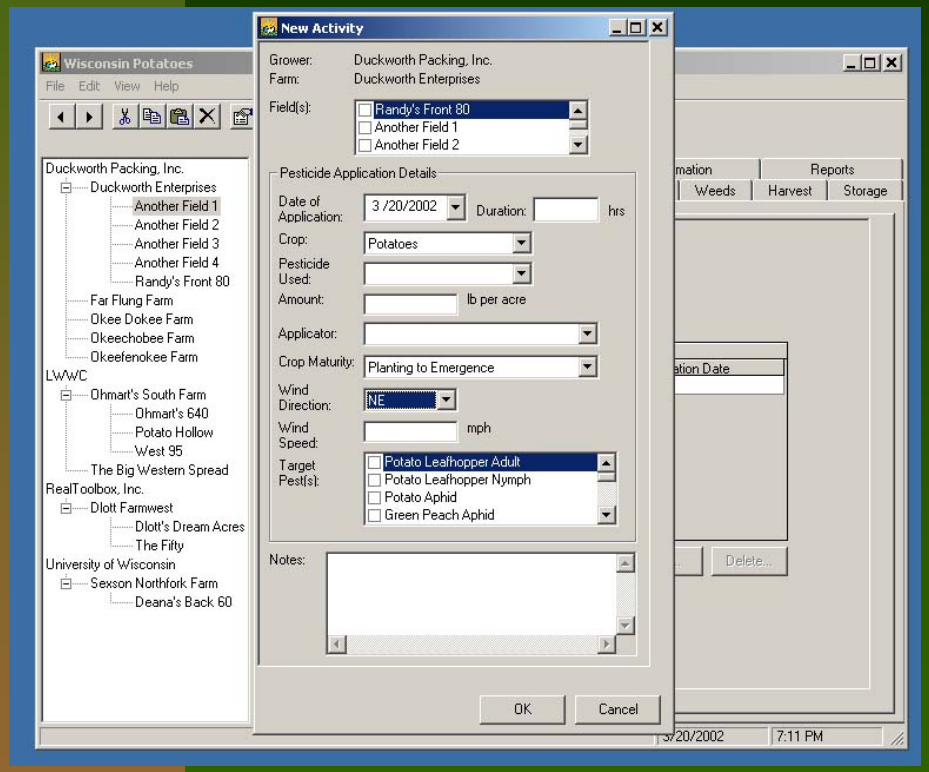
Market Research & Development



- WI value added example
- Difference in Cost:
  - Approx $0.50 per cwt
  - Would like to return $1.00 per cwt
  - Estimated 4-5 cent difference per pound in the marketplace

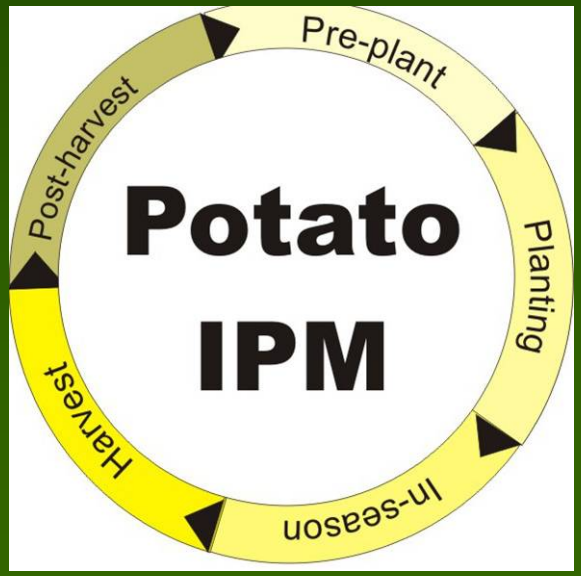
Value Added = $ To Grower

Grower Tools



Computer Systems

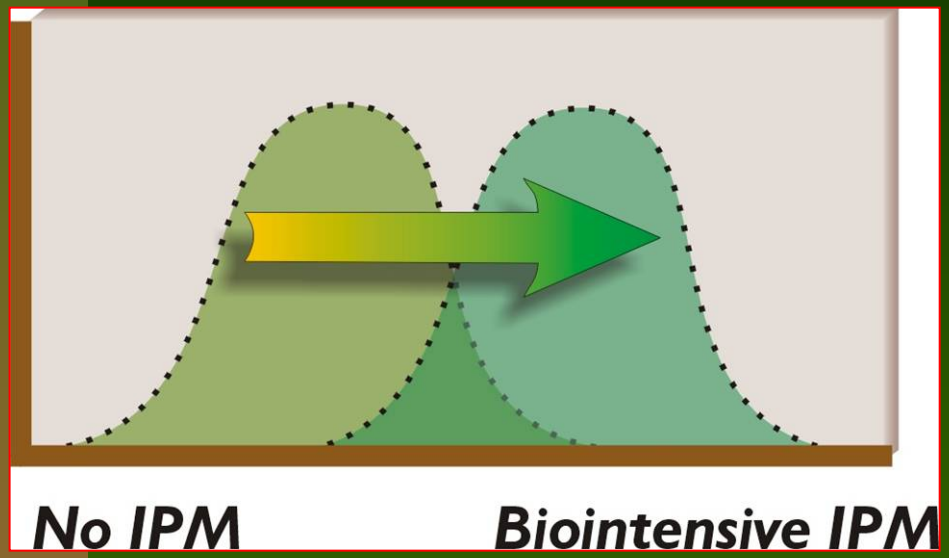
Specialized IPM Plans



Market Launch

Market Launch

Accelerating Ecological Potato Production Systems

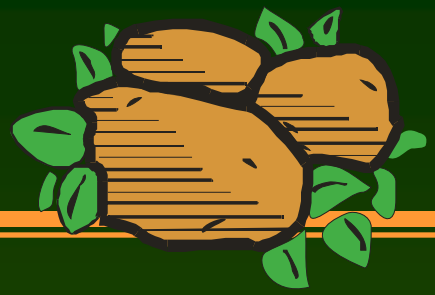


Do one process, learn from it, then expand process to next initiative.
One-thing at a time!

Process

1. **Grower Buy-In**
2. **Measurement Systems**
3. **Documented Change**
4. **Targeted Outreach**
5. **Educational Tools**
6. **Project Management**

New Initiatives



- Ecosystem standards and plans for growers in 2005
- Fumigation alternatives
- Soil and Water quality standards development (Nutrient BMP's)

Ecosystem Standards

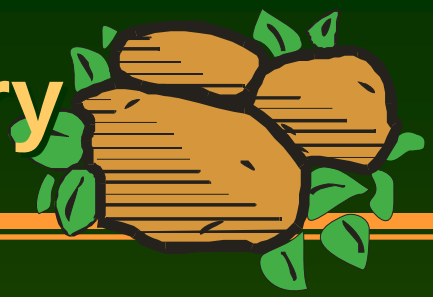
- Prescribed fire
- Mechanical brush cutting

- Herbicide application
  - Spot spray
  - Boom spray

Fumigation Alternatives

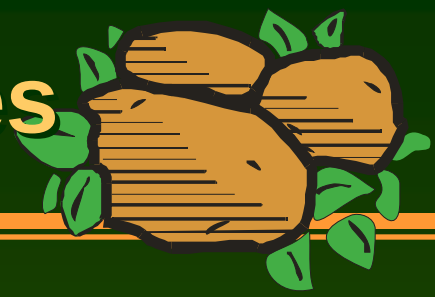
- Cover Crops
- Rotations
- Solarization
- Alternate products

Expansion within the industry



- **Processing Industry**
  - **Fry, Chip, restaurants**
- **Other Vegetables in WI**
  - **Beans and carrots (Stevenson and Wyman)**

Expansion to other industries



- Groups using WI model as a template to develop standards for Protected Harvest
  - Gerber baby Food
  - CA wine grapes (Lodi-Woodbridge Region)
  - CA tree fruits
  - FL tomatoes and peppers
  - Southern sweet potato industry
- All are looking for some type of market recognition – first adoptors

Questions?


GROWN
RUSSET
POTATOES
are part of a program created to produce food that is good for you and the environment.
WWF
World Wildlife Fund® partnered with farmers to pioneer Protected Harvest's innovative environmental standards—protecting wildlife, the environment, and reducing reliance on pesticides.
PROTECTED HARVEST
Protected Harvest is the non-profit organization that independently certifies Healthy Grown farmers use of stringent environmental growing practices.
U.S. No. 1
Net Wt. 10 lbs. (4.54kg)
Produce of USA
Fresh!
GROWN
RUSSET
POTATOES
World Wildlife Fund® partnered with farmers to pioneer Protected Harvest's innovative environmental
PROTECTED HARVEST