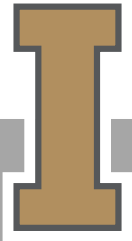


# UNIVERSITY OF IDAHO WHEAT BREEDING AND GENETICS PROGRAMS



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University of Idaho  
College of Agricultural and Life Sciences

# CULTIVAR CHOICES

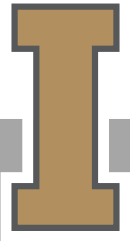
UI Stone, SWS, irrigated and dryland

UI Platinum, HWS, irrigated and dryland

UI Silver, HWW, dryland

UI Sparrow, SWW, dryland and irrigated

UI Bronze Jade, HWW, irrigated and dryland



# SPRING WHEAT IN PRODUCTION



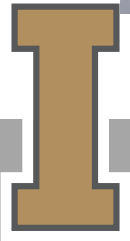
## UI Platinum

- High yield potential, up to 160 Bu/A
- Short, early, excellent end-use quality
- Disease package: stem rust, leaf blight, stripe rust
- Adapted in irrigated and dryland production



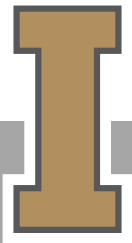
## UI Stone

- High yield potential, up to 160 Bu/A
- Most desired end-use quality
- Disease package: FHB, CCN, strip rust
- Adapted in irrigated and dryland production





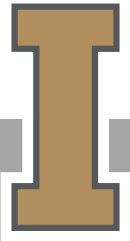
- ◆ High yield potential
- ◆ Tall with strong straw, brown chaff
- ◆ Excellent winter hardiness
- ◆ Immune to dwarf bunt
- ◆ High level resistance to stripe rust, snow mold, eye spot



# UI BRONZE JADE

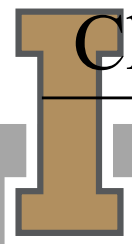


- High grain yield
- Very good resistance to stripe rust
- PHS tolerance
- Cold tolerance
- Foundation seed planted



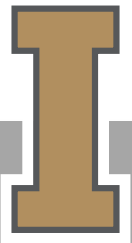
# Yield performance of UI Bronze Jade

Trial	No. Entry	Location /Year	Trial Mean	UI Bronze Jade	LCS Jet
Regional	16	6/2018	114.4	148.1*	147.5
S-ID-IR	41	3/2018	144.7	163.9*	157.7
N-ID-RF	23	6/2018	108.2	112.3	129.7
Chen-IR	8	8/15-18	121.6	134.0*	NA



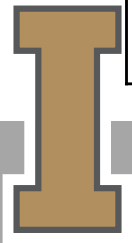
# UI SILVER – HARD WHITE WINTER WHEAT

- Good yield performance under dryland in CO, ID, WA, OR
- Excellent test weight and baking quality
- Complex resistance to several diseases
  - HTAP resistance to stripe rust
  - SrTmp resistance to Ug99 stem rust
  - Excellent resistance to dwarf bunt
- Buyer preferred hard white winter cultivar



# New Hard White Winter Line

IDO1506	Complex resistance, very short, average quality
IDO1806	High yield, resistance to stripe rust, good quality, good height
IDO1906	Complex resistance, very good bread quality, early, good height

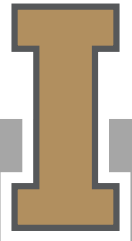




# IDO1506 HARD WHITE WINTER WHEAT



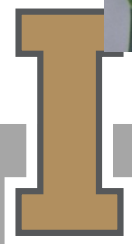
- Short, good for intensive irrigation management
- Very good resistance to stripe rust and dwarf bunt
- Good bread baking quality
- Average yield performance
- Breeder seed available



# IDO1405S, NEW SOFT WHITE SPRING

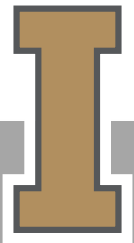


- High grain yield, excellent quality
- Similar or better FHB resistance than UI Stone
- Better stripe rust resistance than UI Stone
- Easier threshing than UI Stone
- Foundation seed planted

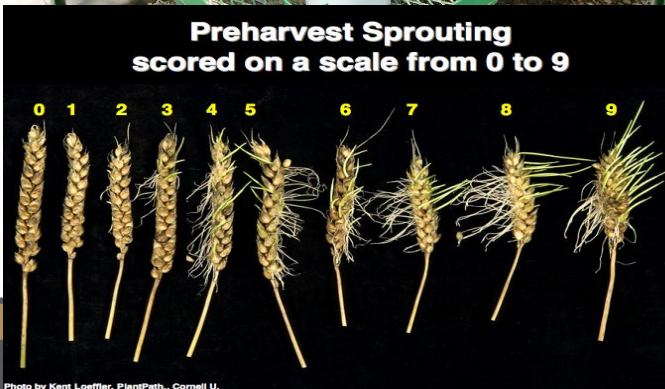


# ■ IDO1603S, NEW HARD RED SPRING

- High grain yield, excellent bread baking quality.
- Excellent resistance to Hessian fly.
- Very good resistance to stripe rust.
- Pre-foundation seed.



# Value-Added New Lines



Resistant to LMA and/or PHS

A12204S-20

A12204S-22

Low Grain Cadmium Uptake

CdDH-016

CdDH-028

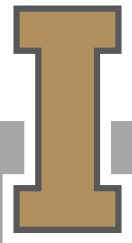
Herbicide Resistant

A16034S



# ADDITIONAL NEW LINES

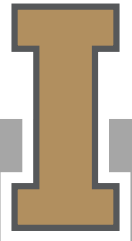
Line	Class	Traits
IDO1608	HRW	HGY, Yr, AQ
IDO1808	SWW	HGY, Yr, Q+
IDO1805S	HRS	HGY, FHB, Yr, Q+
IDO1804S	HWS	HGY, Yr, Q+



# ■ IDO1608, NEW HARD RED WINTER LINE

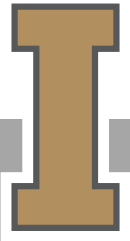


- High grain yield
- Very good resistance to stripe rust and dwarf bunt
- Good bread baking quality
- Stronger straw strength



# SUPPORTING RESEARCH

- Genomics for yield and yield components , USDA-NIFA
- Genomics and Proteomics for LMA/PHS, IWC and USDA
- Dwarf Bunt Genomics and Breeding, IWC
- FHB Genomics and Breeding, USDA-USWBSI
- Cadmium Genomics and Breeding, IWC and industry
- Strong Gluten Genomics and Breeding, IWC



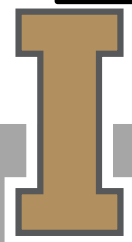
# Improvement of yield components

Spikelet number per spike

Kernel number per spike

Thousand-kernel weight

Productive tiller numbers

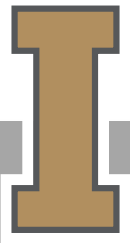
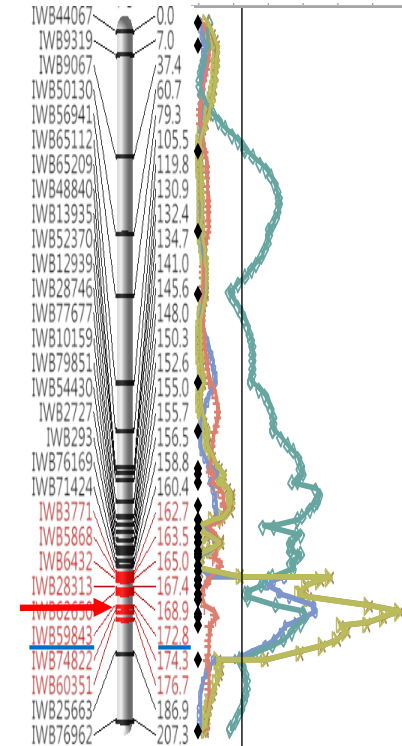




# Genomics of Dwarf Bunt Resistance



- Caused by *Tilletia controversa* Kühn
- Reducing grain yield and quality
- International trade - Quarantine
- Fifteen genes designated



# GENOMICS OF FHB RESISTANCE & BREEDING

