

INCOME PROTECTION (IP) YIELD CALCULATION
Beginning with the 1998 Crop Year

IP Yields are developed using data from all acreage of the crop in the county for a single unit by practice, type, variety (P/T/V), and FCI - 35 T-Yield map area if applicable. IP Yields are developed on a county enterprise basis. If multiple MPCU units need to be combined, use the procedure contained in the Crop Insurance Handbook, Exhibit 15, paragraph 1C and examples 1 & 2, "Combining APH Yield History" except that all references to optional units are expanded to include basic units. The following are items that have changed for IP for the 1998 crop year or are specific to the IP Yield and County Average Yield Calculation.

A PRODUCTION REPORTING REQUIREMENTS

Insureds MUST use all previously certified yield history that is still within the base period and have IP Yield(s) calculated.

- (1) For the most recent APH crop year in the database, FCIC recommends that insureds complete an APH form for each standard APH unit using standard APH reporting requirements; however, if the producer elects to report total gross production and acreage by P/T/V and T-Yield such production reports are acceptable for IP purposes ONLY. The IP Yield Worksheet (See Figure 15) can be used when several units are being combined to compute the IP yield. Reporting acreage and production for the most recent crop year according to APH procedure provides the insured the opportunity to switch to other crop insurance products without recertifying the production history for the crop year and to qualify for optional units if applicable.
- (2) The insured must report and certify ALL planted acres and production for each APH crop year.
 - (a) For APH crop year(s) previous to the most recent crop year, acreage and production must be reported separately by P/T/V (when indicated on the actuarial table) and by location (legal description) when "T" Yield Map areas are involved.
 - (b) IP Yield(s) are compiled using the above acreage and production history by P/T/V as specified on the IP Actuarial Table (see examples in Paragraph E this exhibit).

B Transitional Yields.

Four years of records are not required to establish an IP Yield for each P/T/V, or "T" Yield map area. If a P/T/V or "T" Yield map area requiring separate APH yields has less than four years of actual/assigned yields available, the IP T-Yield using standard category B APH procedure for variable T-Yields will be used to complete the database.

C County Average Yield.

The county average yield is based on the average of the county yields from the IP FCI-35 Coverage and Rate Table for years the producer has actual yields reported. If a producer has less than 4 actual yields to compute the IP yield, then the county average yield is the average of the 10 most recent county yields. (Examples of calculating county average yields are shown in Figures 10 and 14.)

D IP YIELD APPLICATION

The approved IP Yield (s) applies to all respective insurable acreage for a practice and type (only practices and types specified on the IP Actuarial Table are applicable). The IP Yield(s) are reported to FCIC as a type 15 record (yield record) for data processing purposes.

E EXAMPLES OF CALCULATING IP YIELDS

The remainder of this exhibit is examples of combining MPCU units into an IP unit, calculating IP yields, calculating county average yields and IP rates.

Example 1 - Calculating an IP Yield from optional units in Map areas. (page 3)

Example 2 - Calculating a County Average Yield and looking up an IP Rate. (Using no T-yields) (page 6)

Example 3 - Calculating a County Average Yield and looking up an IP Rate. (Using T-Yields) (page 7)

Example 4 - Acreage record and Yield Record Example (Type 11 and 15 records)(page 8)

Example 5 - Calculating an IP Yield from APH historical units with practices different from the IP Actuarial Table practices. (page 11)

(1) Example 1 - This example calculates an IP Yield from

acreage covered under Map areas. The crop has been grown in two "T" Yield classification areas (Map Area). One P/T/V has been grown in each Map Area. Figures 1-3 are located in Map Area 1.

Figure 1, production reports for farm A, N-Irr Winter indicate two actual yields (one basic unit, standard APH located in section 11).

Figure 1: MPCU Unit 0100, Sec. 11, Map Area 1 N-Irr Winter

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX	4,200	100.0	A42
19XX		0.0	Z
19XX	4,300	100.0	A43
19XX		0.0	Z
			19.
20.Prior Y.		21.Approved APH	

Figures 2 and 3, production reports for farm B, N-Irr Winter indicate two actual yields for unit 0201 (standard APH) in section 12 and no actual yields for unit 0202 (standard APH) in section 13.

Figure 2: MPCU Unit 0201, Sec. 12, Map Area 1 N-Irr Winter

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX		0.0	Z
19XX	4,000	100.0	A40
19XX		0.0	Z
19XX	3,520	80.0	A44
			19.
20.Prior Y.		21.Approved APH	

Figure 3: MPCU Unit 0202, Sec. 13, Map Area 1 N-Irr Winter

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX		0.0	Z
19XX		0.0	Z
19XX		0.0	Z
19XX		0.0	Z
			19.
20.Prior Y.		21.Approved APH	

Figures 4, 5 and 6 are production reports for farm C, Irr Spring which indicate three MPCU optional units (standard APH) located in sections 27, 28, and 36 all within Map Area 2. Unit 0301 does not have any actual yields. Unit 0302 has two actual yields. Unit 0303 has one actual yield.

Figure 4: MPCU Unit 0301, Sec. 27, Map Area 2 Irr Spring

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX		0.0	Z
19XX		0.0	Z
19XX		0.0	Z
19XX		0.0	Z
			19.
20.Prior Y.		21.Approved APH	

Figure 5: MPCU Unit 0302, Sec. 28, Map Area 2 Irr Spring

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX	4,000	50.0	A80
19XX		0.0	Z
19XX		0.0	Z
19XX	8,500	100.0	A85
			19.
20.Prior Y.		21.Approved APH	

Figure 6: MPCU Unit 0303, Sec. 32, Map Area 2 Irr Spring

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX		0.0	Z
19XX		0.0	Z
19XX		0.0	Z
19XX	1,660	20.0	A83
			19.
20.Prior Y.		21.Approved APH	

Figures 7 and 8 are IP summary Yield APH Forms, one for each Map Area, Practice and Type.

Figure 7: IP Yield, Area 1 N-Irr Winter applicable to MPCU Units 0100, 0201, and 0202 (IP UNIT 0100)

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX	4,200	100.0	A42
19XX	4,000	100.0	A40
19XX	4,300	100.0	A43
19XX	3,520	80.0	A44
			19. 169
20(A)PLEM.Y.	42	21.Approved APH Yield	

Figure 8, IP Yield, Area 2 N-Irr Spring Applicable to MPCU Units 0301-0303 (IP UNIT 0100)

15.CY.	16.TP.	17.ACRES	18.YIELD
19XX			N75
19XX			N75
19XX	4,000	50.0	A80
19XX		0.0	Z
19XX		0.0	Z
19XX	10,160	120.0	A84
			19. 314
20(A) PLEM.Y.	79	21.Approved APH Yield	

The forms are forwarded to the verifier who approves the Summary Yield. A separate IP Yield is required for each "T" yield map area for each practice, type, or variety (requiring separate APH yields) requested.

- (2) Example 2 - The following is a rating example using IP Yields calculated in Figure 7 and the sample IP FCI-35 in Figure 11.

The producer's IP yield for Non-Irrigated Winter Wheat is 42 bushels per acre. Assuming the years in the IP Yield Database were the most recent four years (1994-1997), the IP Yield and County Average Yield Calculation are calculated as follows:

Figure 9:

IP YIELD WORKSHEET

STATE: 53

TYPE: 011

COUNTY: 075

PRAC: 003

CROP: 0011

MAP AREA: 001

YEAR	TOTAL PRODUCTION	ACRES	SUMMARIZED YIELD	YIELD TYPE	COUNTY YIELD
				A=ACTUAL	
1994	4200	100	42	A	70
1995	4000	100	40	A	53
1996	4300	100	43	A	64
1997	3520	80	44	A	67

IP YIELD	42	COUNTY AVERAGE YLD	64
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Based on this calculation and using the IP FCI-35 from Figure 11, the appropriate 75% rate for IP N-Irr Winter Wheat would be 0.088.

- (3) Example 3 - The following is an example of calculating a County Average Yield and IP rate using information from Figure 8. (T-yields used)

Figure 10:

IP YIELD WORKSHEET

STATE: 53

TYPE: 012

COUNTY: 075

PRAC: 002

CROP: 0011

MAP AREA: 002

YEAR	TOTAL PRODUCTION	ACRES	SUMMARIZED YIELD	YIELD TYPE	COUNTY YIELD
1988					69
1989					66
1990					56
1991					77
1992			75	N	53
1993			75	N	56
1994	4000	50	80	A	70
1995		0	0	Z	53
1996		0	0	Z	64
1997	10,160	120	84	A	67

IP YIELD	79	COUNTY AVERAGE YLD	63
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Based on this IP Yield and County Average Yield calculation the appropriate rate for IP Irr Spring Wheat would be 0.039. (Note that a 10-year county average yield was used due to the IP Yield Summary having less than 4 actual yield years.)

- (4) Example 4 - The Acreage report would be developed the same way it currently is for master yields using two line entries (abbreviated) as follows:

Crop	Prac	Type	Unit	Map Area	Yield	Rate	Acres	Share
Wheat	003	011	0100	001	42.0	0.088	100.0	1.000
Wheat	002	012	0100	002	79.0	0.039	320.0	1.000

A new producer could submit an APH form for IP by practice/type/variety for the unit (essentially the summary alone) as outlined above. Or the producer could develop the APH using standard APH procedures rolling the APH units into the IP Summary Yield by practice/type/variety.

The IP Yield information is stored electronically in the following data fields:

11 Record - IP yield in Yield Field
County Average Yield in IP County Average Yield Field

15 Record - Acres in Yield Acre # Fields
Summarized Yield in Annual Yield # Fields
Yield type in Yield Type # Fields
IP Yield in Approved Yield Field

County Average Yield calculation:

If more than 3 years of actual years in the 15 record (no t yields), the county average yield is the average of actual yield years' county yields from the FCI-35.

If less than 4 years of actual yields on the 15 record, the county average yield is the average of the most recent 10 years' county yields from the FCI-35.

Figure 11:

08/12/96

COUNTY ACTUARIAL TABLE

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FCI-35 COVERAGE AND RATES
1998 AND SUCCEEDING CROP YEARS

ST: WASHINGTON (53)

CO: Whitman (075)

CROP: WHEAT (0011)

INCOME PROTECTION BASE PREMIUM RATE									
75% COVERAGE LEVEL									
COUNTY AVERAGE YIELD									
PRODUCER	0-55	56-57	58-59	60-61	62-63	64-65	66-67	68-69	70-999
APH (BU)									
0-25	0.048	0.102	0.125	0.138	0.183	0.219	0.259	0.304	0.474
26-30	0.033	0.069	0.085	0.095	0.127	0.153	0.182	0.215	0.350
31-35	0.027	0.056	0.070	0.077	0.103	0.124	0.149	0.176	0.290
36-40	0.023	0.047	0.058	0.064	0.086	0.103	0.123	0.146	0.242
41-45	0.021	0.041	0.050	0.055	0.073	0.088	0.104	0.124	0.204
46-50	0.019	0.037	0.044	0.049	0.064	0.076	0.090	0.106	0.174
51-55	0.017	0.033	0.039	0.043	0.056	0.066	0.078	0.092	0.149
56-60	0.017	0.030	0.036	0.039	0.051	0.060	0.070	0.081	0.131
61-65	0.016	0.029	0.034	0.037	0.047	0.054	0.063	0.073	0.116
66-70	0.016	0.027	0.032	0.035	0.043	0.050	0.058	0.067	0.105
71-75	0.016	0.026	0.031	0.033	0.041	0.047	0.054	0.062	0.095
76-80	0.016	0.026	0.030	0.032	0.039	0.045	0.051	0.058	0.087
81-85	0.016	0.025	0.029	0.031	0.038	0.043	0.048	0.055	0.081
86-90	0.016	0.025	0.028	0.030	0.036	0.041	0.046	0.052	0.076
91-95	0.016	0.024	0.027	0.029	0.035	0.039	0.044	0.049	0.071
96-999	0.016	0.024	0.027	0.029	0.034	0.038	0.042	0.047	0.066

INCOME PROTECTION COUNTY YIELD TABLE									
CROP YEAR									
1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
36	52	48	52	59	55	75	66	56	63
1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
69	66	56	77	53	56	70	53	64	67

- (5) Example 5 - Calculating the IP Yield Summary from APH units having different practices/types.

This example shows how to compute an IP Yield for practice NPS (no practice specified) and type NTS (no type specified) from historical APH units with SF (summer fallow) and CC (continuous cropping) yields.

Figure 12: MPC I PRACTICE: 004 (CC) TYPE: 997

15.CY.	16.TP.	17.ACRES	18.YIELD
1994		0.0	30T
1995	1,000	20.0	50
1996	1,100	20.0	55
1997	1,000	20.0	50
			19.
20.Prior Y.		21.Approved APH	

Figure 13: MPC I PRACTICE: 005 (SF) TYPE: 997

15.CY.	16.TP.	17.ACRES	18.YIELD
1994			25N
1995			25N
1996	450	10	45A
1997	400	10	40A
			19.
20.Prior Y.		21.Approved APH	

Figure 14:

IP YIELD WORKSHEET

STATE: KANSAS

TYPE: NTS

COUNTY: ROOKS

PRAC: NPS

CROP: 0011

MAP AREA:

YEAR	TOTAL PRODUCTION	ACRES	SUMMARIZED YIELD	YIELD TYPE	COUNTY YIELD
1988					34
1989					10
1990					37
1991					27
1992					35
1993					16
1994			38	T	38
1995	1000	20	50	A	24
1996	1550	30	52	A	23
1997	1400	30	47	A	33

IP YIELD	47	COUNTY AVERAGE YLD	28
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If you wish to use the above worksheet, a copy of a blank form is attached.

Figure 15:

IP YIELD WORKSHEET

STATE:

TYPE:

COUNTY:

PRAC:

CROP:

MAP AREA:

YEAR	TOTAL PRODUCTION	ACRES	SUMMARIZED YIELD	YIELD TYPE	COUNTY YIELD
19					
19					
19					
19					
19					
19					
19					
19					
19					
19					
19					

IP YIELD		COUNTY AVERAGE YLD	
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